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ORIGINAL COMMUNICATIONS.

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CASE OF PURPURA HEMORRHAGICA.*

DR. MAX A. GOLDSTEIN, St. Louis.

Dyscrasias of the blood showing intense local manifestations in the mucous membrane of the mouth and buccal cavities are so infrequent and are so meagerly described in text-books and monograph-literature that I take this occasion to report minutely the following case of purpura hemorrhagica with local manifestations especially developed in the mouth.

M. M. F., aged 36 years, a Russian tailor, was admitted to the Medical Division of the Jewish Hospital of Saint Louis, December 1, 1911, and was referred to my department, December 3.

PRESENT CONDITION: The patient was admitted, bleeding from the left nostril, from the mouth, and from the gums of the left superior maxilla. This bleeding began two days previous to the admission to the hospital, and the patient sought relief from a physician who packed the nose tightly with gauze. The bleeding in the nose continued through the dressing and also from the gums of the left upper jaw. Patient consulted a dentist who incised the mucous membrane of the gum and lip near the site of bleeding.

The bleeding seemed uncontrollable, and the patient was admitted to the "in-patient" department of the Jewish Hospital and put to bed.

There was no marked pain except on manipulation about the nose, antrum, lips and gums; occasional headaches; no pains in the chest

*Candidate's thesis presented to the Thirty-fifth Annual Meeting of the American Laryngological Association, Washington, D. C., May, 1913.

or abdomen; slight pain in the left thigh; appetite not impaired, but had not eaten for two days on account of bleeding in the mouth: sleep disturbed because of hemorrhage; bowel, constipated, passage black and tarry; urine, very dark red.

PREVIOUS HISTORY: No recollection of childhood diseases; no serious illness up to the present time. Had tooth extracted last May,

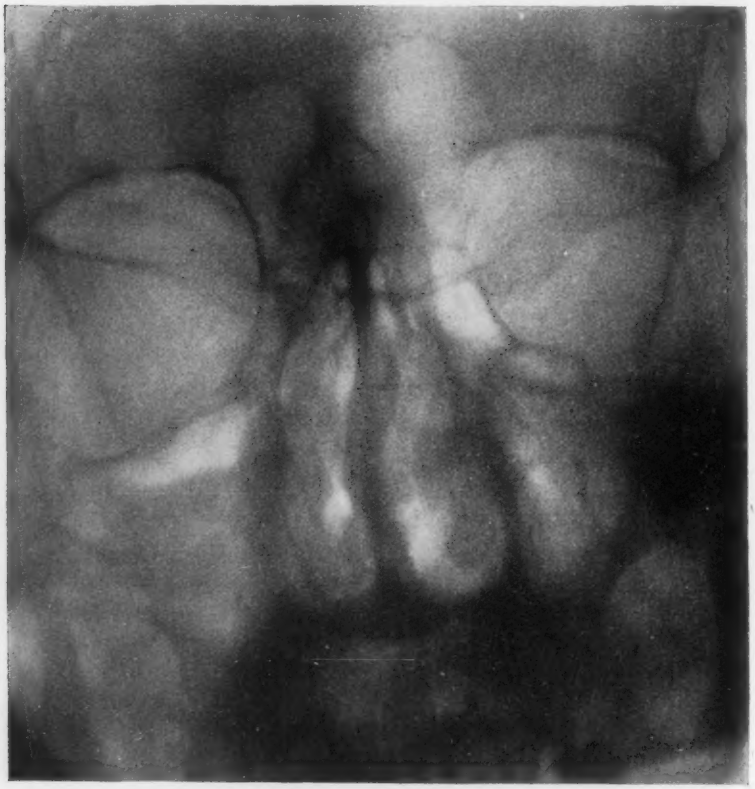


Plate 1: Nose, accessory spaces and alveolar process of jaw before treatment.

followed by marked bleeding. Since that time he noticed that he bled unusually freely from the slightest cut. No history of bleeding in any member of the family. Denies venereal diseases.

EXAMINATION: Middle aged man; small stature; expression, dull and anxious; color very sallow. Reddish and reddish-brown spots

(pin-point to size of split pea) in skin on face and generally scattered over body. These spots appeared suddenly, enlarged, and turned brown after a few days. *Eyes*: Color of sclera of eyes, yellowish, somewhat injected; pupils equal and react to light and accommodation. *Nose*: Left nostril markedly dilated and mucosa engorged and inflamed. Constant oozing through packing; area of bleeding not localized. No nasal symptoms prior to present attack. *Mouth*: Lips dry, swollen, dark-red spots on inner margin; similar spots on internal and external margin of gums, on left side of the upper and lower jaws, also on the surface of soft and hard palate, sublingual plica, and on uvula and fauces. Upper side, left jaw, shows very bad tooth. Bleeding under gum of first and second molars. Buccal cavity on left side very much swollen, pigmented and bloody. *Pharynx*: Difficult of inspection, as blood from posterior naris constantly trickled over surface. *Ears*: Negative. *Neck and chest*: Negative except for purpuric spots. Heart-sounds good, no murmurs. *Abdomen*: No rigidity nor tenderness. *Liver* extended from seventh rib to slightly below the costal margin. *Spleen*: Not palpable. *Extremities*: No glandular enlargement, slight pain in left thigh; patella and plantar reflexes positive; Rombergism negative. Arteries soft, tension good.

CLINICAL RECORD. *December 3, 1911*: Numerous purpuric spots appearing on flexor surface of arms and legs, and on face. Nose and gums packed four to five times in twenty-four hours with gauze strips soaked in adrenalin chlorid. Tincture opii internally M X. Two tubes of anti-diphtheric serum injected subcutaneously. Calcium lactate (gr. 10) every three hours; gelatin by mouth; liquid nourishment only; ice caps and cold compresses constantly applied to head and face. Temperature 98°-98.6° (axillary).

December 4: Nose and gums packed with 25 per cent ferrous subsulphate. Parts cleaned with hydrogen peroxid.

December 5: Nose packed with bismuth subnitrate gauze and dusted with aristol. Patient felt slightly better and less alarmed.

December 6: All packs removed and parts dusted with aristol. Still slight oozing. Left eyelids and infra-orbital region infiltrated reddish-yellow; similar blotches on exterior surface of left arm. Temperature 98°-99.8° (axillary). Calcium lactate, internally administered, continued in 10 grain does every three hours. Olive oil t. i. d.

December 8: Urine of normal color the first time since admission of patient to hospital. Temperature 98.6°-100.2°. Sero-sanguinous discharge from left nostril. Left side of nose, superior maxil-

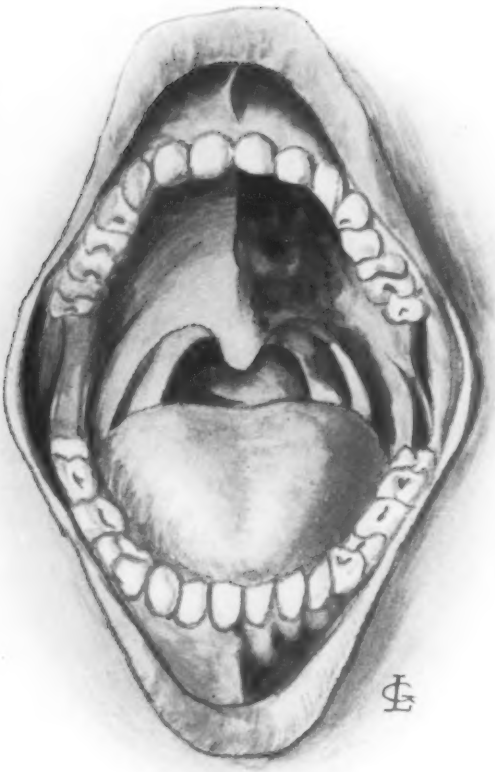
lary process, eyelids, and bridge of nose much swollen and bluish in color. Very little evidence of bleeding. Petechial spots still present on palate and gums.

December 10: Swelling over superior maxilla decreased in upper but increased in lower areas. On gingival mucous membrane, just above first molar tooth on left side, fluctuating tumor, the size

Plate 2: Nose, accessory spaces and alveolar process of jaw after treatment.

of a large hazel-nut; pain on slight pressure. Tumored incised, slight amount of purulent matter expressed. Tumor area painted with tincture of iodin. Temperature 99.2°.

December 13: General condition of patient much better; swelling almost disappeared from face; only traces of spots on gums and palate remain. Purpuric spots in skin of body have disappeared.



PURPURA HEMORRHAGICA.

CASE OF DR MAX GOLDSTEIN

December 16: Temperature normal for three days. Patient much improved: discharged from "in-patient" department.

BLOOD-EXAMINATION. *December 3*: Hemoglobin 75 per cent; leucocytes 15,000.

December 4: Red count 5,750,000; hemoglobin 80 per cent.

December 9: Red count 4,500,000, white count 14,600; hemoglobin 85 per cent.

URINE: Examined daily; showed neither albumen nor sugar, nor increase of indican.

FECAL EXAMINATION: Stools very dark, hard, nodular, tar-like. Guiac test very positive during bleeding; cleared rather abruptly.

RADIOGRAMS: First x-ray was taken December 7, 1911; the second x-ray was taken December 15, 1911.

This case, seen in consultation with Drs. Tuholske, Friedman, Jonas, Lippmann, Meyers and Deutsch, was diagnosed as a rather unusual form of purpura hemorrhagica of unknown etiology. The clinical evidences were sufficiently marked to warrant this diagnosis.

The factors of unusual interest from a laryngological point of view were the localization of the unusual and sharply marked purpuric blotches in the mouth and buccal cavity, the spontaneous bleeding from the nose and gums as possible etiological factors, the apparent ineffectiveness of internal therapy until the injection of serum had been made, and a further possible etiological factor in the left nasal fossa and maxillary antrum as shown by the radiograms.

The colored plate, drawn at the bed-side, gives a fairly accurate idea of the areas involved in the localized purpuric infiltration.

It is a significant feature of this case that all of the areas of pigmentation, whether in the mucosa or skin of body and extremities appears on the left side.

In the mouth and buccal cavity this intense pigmentation is outlined by a sharp straight line to the vertical edge of the median raphe in the hard and soft palate and the frenum in the gums of the lower jaw. The deepest coloration of bluish-red appears over the hard palate corresponding to the area over the floor of the nose; this might, perhaps, be associated with the original pathology in the alar wall of the nose and nasal wall and floor of antrum.

Repeated inspection of the nose of the patient after convalescence showed the septal mucosa on the left side perfectly normal, but the left alar nasal surfaces about the middle turbinal body and inferior meatus showed similar irregular areas of erosion.

The left maxillary antrum was washed out several months after the discharge of the patient, and the wash came away perfectly clear. These observations are also substantiated by the second radiogram as compared to the first, in which obscurity and possible fluid-contents (perhaps blood) were evident.

The cause of the spontaneous bleeding from the nose was not ascertained. When the patient was at first seen at the hospital, there was an ulceration or erosion of the gums about the first molar tooth which was painful to the slightest manipulation and bled freely.

Of all the therapeutic measures carried out in the conduction of this case we have reason to believe that the only effective agent utilized was the injection of two tubes (10 ccm. each) of anti-diphtheric serum. Thirty-six hours after injection of the serum all packings were removed from the nose and very little oozing followed.

A critical examination and comparison of the two radiograms, the first taken during the hemorrhagic activities in the nasal and oral cavities, and the second after the patient was discharged from the hospital showed decided differences in appearance. In the first radiogram there is a distinct area of shadow in the left nasal fossa and left antrum, and there is also some evidence of abnormality indicated in the shadow of floor of left nose, antrum and appearance of bone of left superior maxilla; in the second radiogram both nares appear more nearly of the same shading as do the floor and nasal wall of antrum and area over the left maxilla.

The case is unique in kind, as I have searched the literature of purpura hemorrhagica carefully and have failed to find any mention of localization in the area of the nasal and oral cavities.

I am indebted to Dr. Joseph O'Reilly for the careful bed-side notes furnished in this case.

3858 Westminster Place.

SOME SERIOUS EYE CONDITIONS THE RESULT OF INTRA-NASAL AND NASAL ACCESSORY SINUS DISEASE.*

DR. J. A. STUCKY, Lexington, Ky.

In an address delivered before this academy in September, 1907, on a similar topic, I said: "While the subject of the relation of the pathological condition of the nose and accessory sinuses to the visual apparatus, was by no means unfamiliar," the last word pertaining to symptomatology and diagnosis had not been said, and in the study of this region there is still "much timber, tall and uncut" —much anatomical and physiological work to do, and a still greater field for study in the pathological realm. Laurels and gratitude await the patient and persevering investigations of our members as to the etiology, diagnosis and treatment of diseases of the nasal accessory sinuses and the serious ocular disturbances often due to their disturbed functions as the result of pathological conditions or mechanical obstructions. Prior to 1906 only one paper on this subject appears in the transactions of this academy. Since then more than twenty papers with discussions have been read and published by our members.

Wonderful strides have been made, much good work has been done, much of the tall timber of ignorance and uncertainty has been cut, and, as the result of the closer relations of the oculist, rhinologist and internist, many hitherto unsolved problems of serious ocular conditions due to nasal conditions have been solved, and to many vision and comfort of body has been restored. The way has been well blazed, and to-day is being well paved for a greater work, for the last word has not been said as to the symptomatology, etiology, diagnosis and treatment, and, while many of our number have won "laurels and gratitude," there is yet much to be done, and the palm of victory that goes with success awaits the patient and persevering scientific oculist and rhinologist.

In our investigations we must remember that in this day of specialism there is danger of our becoming cyclopic, with only one eye that sees only the oto-rhinological part of the body, overlooking the possibility of danger that may result to the ocular apparatus to which it is so intimately related. We still find that each case

*Read at the Eighteenth Annual Meeting of the American Academy of Ophthalmology and Oto-Laryngology, Chattanooga, Tenn., October 27, 1913.

is a law unto itself, the symptoms often vary as much as do the size, shape and positions of the sinuses.

Experience and investigation of the etiology of many of the serious ocular conditions frequently met with in our daily routine of clinical work brings increasing and unmistakable evidence of the truth that no one organ of the human body, when diseased, can be successfully treated to the exclusion of other organs and parts of that body. Often we find an intra-nasal condition, to all appearances presenting more than sufficient evidence for the cause of the serious intra-ocular trouble for which the patient consulted us, and we are disappointed and chagrined to find that when this is entirely removed the ocular condition is unimproved. On going deeper into other possible etiologic factors, we find a toxemia to be the cause of the ocular disease. This is more frequently of an auto-intoxication nature and due to faulty metabolism, beginning primarily in the gastro-intestinal tract; but it must not be forgotten that we may have serious ocular conditions resulting from an auto-intoxication in which the alimentary canal has no part whatsoever. For this reason, if for no other, the oculist must needs have the assistance of not only the rhinologist but also of the internist, radiographer and laboratory expert.

In other words, the greatest accuracy and success oftentimes can be gained only by the working together of several specialists in the science of medicine as one man. As yet we know of very few pathognomonic etiological factors in the production of serious changes in the fundus oculi which results in either blindness or greatly impaired vision, and our diagnosis is often made by exclusion of other possible causes of the condition, and our treatment directed to attacking vigorously that which presents the greatest evidence of being the predominant etiologic factor.

This is not the time, place nor occasion for me to consume valuable time by reporting individual cases illustrating some of the serious eye conditions which I have met, due to intra-nasal and nasal accessory sinus disease. A body of men, such as this is, whose membership contains the majority of the leading oculists and rhinologists of America, does not expect in minute detail clinical histories in the presentation of a topic for discussion at its annual meeting; hence, I omit this and present briefly the lessons I have learned from my own individual work, and submit them for your consideration and discussion.

I have had five cases of neuro-retinitis, nine of papillitis, three of "choked disc," one atrophy of the optic nerve, and five exoph-

thalmus or posterior ethmoid cells; often both these were unsolved. In these cases the right eye was most frequently involved; and nearly all of them were complicated by a systemic condition, an autotoxemia, a low form of septicemia, neurasthenia or rheumatism. I refer in this report only to those in whom the diagnosis of the intra-nasal and accessory sinus condition was verified by subsequent operation. In twenty of the cases the sphenoid sinus and posterior ethmoid cell walls were extremely thin and of large size; in the remaining four cases the very opposite condition was found. The best explanation of this I think, is that given by Frank Brawley, who says: "Involvement of the eye is more likely to occur from infection in thin-walled sinuses or where dehiscences occur in the bony walls, producing direct contact between the lining membrane of the sinus and the orbital periosteum, or even the sheath of the optic nerve. Adhesions may occur between the orbital periosteum or the optic nerve-sheath and the bony sinus walls, secondary to inflammation of the latter, and these adhesions may become vascularized, offering a direct route for infection of the ocular structures."

I have frequently observed in cases where there was a difference in power of accommodation in the two eyes, that this was relieved by getting rid of a middle turbinate which was hypertrophied, or from any cause producing pressure in the nose, either against the septum or antral wall. In those cases with very narrow "nasal attics," if free ventilation and drainage through the infundibulum is due to an obstructing middle turbinate, this should be removed, even though it presents no pathological changes. Its long-continued pressure in this region—the vicious circle—will eventually lead to pain, pus-formation and ocular disturbance as the result of the negative pressure it causes within the accessory sinus. These points have been emphasized by Pynchon, Ballenger and myself in this academy on other occasions and need not be dwelt upon at length again.

In five cases of amblyopia in the right eye, where the vision varied from 20/180 to 20/200, which could not be improved by any lens, three of them had pansinusitis of the right side, but there were no intraocular or fundus changes except slight edema of the nerve head. In these the radical Killian operation was performed and all the accessory sinuses on the right side were found to be filled with pus and soft granulations—the sphenoid sinus was very large, the walls thin and necrotic. Immediate relief of the local and systemic (septic) symptoms was the result of the operation, but there was no improvement in vision in either case for several months, when

there was gradual and permanent (no return over three years) restoration of vision. These cases, as all those I operate for extensive intra-nasal and accessory sinus disease, were given small doses of iodin in daily increasing doses, and reconstructive tonics for from three to six months, beginning the third or fourth day after the operation.

The other two cases presented no evidence of any pathological condition either in the nose or accessory cavities, but the upper portion of the nose (the attic) was very narrow, and the small middle turbinate pressed tightly against the septum and antral wall, completely obstructing both ventilation and drainage through the infundibulum. Besides the loss of vision, which was accidentally discovered in the right eye by the patient, and in the other by the oculist, both patients complained of nothing except a morning headache, which persisted from the time he got out of bed till about ten o'clock, when it began to wear off. He could tell when relief was near because he always had an attack of sneezing a short time before. At the time of operation I had difficulty in cocainizing the parts with the finest cotton-covered probe because of the extreme narrowness of the nasal attic, and even after the soft tissues were retracted by adrenalin the space between the turbinate and septum, as well as the antral or outer wall of the nose was so narrow that it was impossible to thoroughly apply sufficient of the local anesthetic to render the operation bearable.

In neither of these (extreme cases) and in many others of a similar nature, in which I have removed the middle turbinate, did I find evidence of any pathological change which had taken place in either the turbinate body or accessory sinuses. The pain was probably due to negative pressure caused by obstructed ventilation and drainage of the frontal and sphenoid sinuses as well as the ethmoid cells; the amblyopia was due to toxemia, the result of congestion or venous stasis from the same cause. The relief of the morning headache was within a week following the removal of the middle turbinates, the restoration of vision within six weeks.

Attention is called to these five cases because they represent the extreme type and illustrate forcefully some of the very serious conditions of the visual apparatus resulting from intra-nasal disease and abnormalities. I have met with several cases of blepharospasm, dacryocystitis, pain in the eye with varying degrees of photophobia and epiphora, which were the result of nasal synechia following the use of the cautery or from hypertrophied or polypoid degenerated turbinates.

Within the past three years I have been especially impressed with how little intra-nasal surgery is necessary to relieve the most complicated and serious conditions in which the visual apparatus presents the most alarming symptoms, and I am finding fewer cases that require the radical external operation even for the relief of suppurative pan-sinusitis. In this respect the radiographer has been of inestimable help to us, in that he is able to demonstrate to us the abnormalities, peculiarities and oftentimes the pathological indications that each case may present; thus preventing our groping in the dark for the opening into the venous nasal accessory sinuses. The pendulum has swung from the extremes of conservatism and radicalism, and these extremes are now uniting into what might appropriately be termed conservative radicalism.

The special field in which the rhinologist labors, when any surgical intervention is indicated in order to relieve pain, maintain health or to save life, differs from the surgery in any other part of the body, in that ventilation is as necessary as drainage. The highest aim of the rhinologist should be to save as much of the active functioning nasal mucosa as possible and not destroy it. I have contended for years and now repeat the contention with emphasis that the "offshoot" of the ethmoid bone, known as the middle turbinate, is more frequently at fault in the production of intra-nasal and nasal accessory sinus disease than all other causes combined, because of its proximity to the infundibulum and the so-called vicious circle of the nose—when it is enlarged or adherent it blocks both ventilation and drainage of all the sinuses, and its thorough removal with a minimum amount of traumatism and after-treatment in the form of vapors, sprays, douches, ointment and powders is productive of more good than all other intra-nasal operations or treatment.

In conclusion, no two specialties or specialists ought to be more intimately related than the oculist and rhinologist, and these two far more frequently than is at present admitted need the co-operation of the internist, radiographer and laboratory expert.

The work of Brawley, Ziegler, Pynchon, Ballenger and de Schweinitz in the American rhinological and ophthalmogical field, who have gone so minutely and accurately into the investigation and elucidation of this subject, deserve not only special mention from me but the thanks of this academy.

Short Street.

BRAIN INFECTION FROM SINUS DISEASE.*

DR. WOLFF FREUDENTHAL, New York City.

Although for a long time otitic brain infections have been known and studied throughout the world it is only of late that attention has been paid to those of nasal origin, in spite of the fact that such cases have been observed in every large clinic. During a recent trip through Europe the writer had occasion to discuss the subject with many of the leading men abroad and was astonished at the large number of fatal accidents that had occurred in many of the prominent clinics. Alas! these cases are often not reported abroad and seldom in this country. I know of a large number of fatalities in my own city but have yet to see them published.

The first question of interest is: In what way is an infection carried to the cranial cavity after any operation on the nose or throat, or even without an operation? There are four possibilities: It may be propagated (1) by continuity; (2) by way of the blood-vessels; (3) by way of the lymphatics; and, finally (4) by way of the lymphatic sheaths of the olfactory nerve.

Hajek directed attention to the possibility of brain involvement resulting per continuation even though the bones and dura mater may appear intact on *macroscopic* inspection. In one case published by him he proved the correctness of this statement by *microscopic* examination. He and Hinsberg also demonstrated the second mode of infection—viz., the transmission of the micrococci through the blood-vessels. Hajek had previously found streptococci in the veins in rhinogenic endo-cranial infection and later this observation was corroborated by others.

Of great importance as regards the third mode of possible infection are the experimental researches of Zwillinger of Budapest on animals and men. His studies on the lymphatics of the upper portion of the nose and their relation to the peri-meningeal lymphatic cavities resulted in the following conclusions presented by Zwillinger at the last International Medical Congress in London and kindly communicated to me by the author:

1. The relation of the perimeningeal spaces of the subdural and subarachnoid space with the lymphatic network of the mucosa of the frontal sinus by way of the nasal mucous membrane in animals

*Read before the American Academy of Ophthalmology and Oto-Laryngology. Chattanooga, Tennessee, October 27, 1913.

(rabbits) is a matter of knowledge. 2. The direct relation of the peri-meningeal lymph spaces with the lymphatic network of the mucosa of the frontal sinus has been demonstrated. 3. The relation of the peri-meningeal lymph spaces with the lymphatic network of the mucosa of the frontal sinus by independent routes passing through the bones has also been determined. 4. Anatomical evidence of the relation of the lymph channels of the mucosa of the frontal sinus with the lymph spaces of the central nervous system in human beings has also been adduced. 5. The paths concerned in the occurrence of intracranial and cerebral complications of the frontal sinus comprise, besides those already known, the lymph channels of the mucosa of the frontal sinus which are in direct relation with the peri-meningeal lymph spaces."

The fourth possible channel of infection is by way of the lymph sheaths. In view of their anatomical features they should constitute the best reservoir for all invading bacteria (Miodowski). In a case of post-operative meningitis, Killian was able to macroscopically demonstrate the path of infection from the ethmoid cells upward, but the microscopical proof was lacking. Such evidence has but recently been afforded by Felix Miodowski at the clinic of Prof. Brieger in Breslau. Miodowski supplied the missing link, viz., the histological proof of the infection ascending along the sheath of the olfactory nerve. This was shown in three cases of submucous resection, and thus we are safe in stating that he has established this fact positively.

When an infection is once carried into the cranial cavity, no matter by what path, it is generally the frontal lobe that becomes involved and it is either its basal portion or the anterior or median region that is affected. If pus is formed it may go its own way, as, for example, through the orbit, or, as in the case of Westermeyer, from the antrum through the pterygo-palatine fossa to the brain.

Very peculiar is a case published by Hansberg, in which the right frontal sinus was affected (pus). The patient died and it was expected that an abscess would be found in the right frontal lobe. Instead, an old abscess was present in the *left* lobe. The right ethmoid cells were necrotic, while on the left side there was only a thickening of the mucosa of the frontal sinus and ethmoids. It is, therefore, likely that the infection found its way from the mucosa of the left frontal sinus to the meninges through the blood-vessels. (See also Oppenheim and Cassirer.) In many other instances such small abscesses have not been recognized *intra vitam* as they do not manifest symptoms. The diagnosis of rhinogenic brain complications, therefore, is occasionally extremely difficult. The reason for this

is not alone the smallness of an abscess, as in the above case, but often, as Gerber has pointed out, it is attributable to the fact that the primary affection of the sinus may be latent and may not give rise to any symptoms whatsoever, and for that reason an examination of the nose is often omitted. Finally, we must remember that a fully developed rhinogenic meningitis is in no way different from any other form of meningitis, so that for this reason also a case may be overlooked.

We now come to the most important question: When shall we operate? As regards acute cases, the idea has prevailed that almost every one of them improved without operation. This does not coincide with my experience. Too many cases have returned for treatment after they had been successfully treated by others, as well as by myself. Sometimes an increase of an existing coryza or a slight attack of the grip* has caused a lighting up of an empyema that has been considered cured. In some instances this process recurs once or twice a year and the case may go on indefinitely. Such cases, and others of similar character are not so very rare as is generally believed. In still other instances the symptoms become suddenly so grave that an immediate operation is indicated.

All these cases point to the fact that the process is often latent giving rise to no symptoms. If such a large number of unrecognized latent cases were not going around, how would it be possible for so many pathological changes to be found in the sinuses at autopsies? George F. Cobb of Buffalo reported several deaths in the course of latent sinusitis, so that there is reason to seriously consider a radical operation at any time. And yet, in spite of all these arguments, operation should not be resorted to in the majority of these cases. The policy is indicated here as in acute mastoiditis. While in the latter a simple incision into the membrana is very often sufficient, in the sinuses the removal of pus by lavage or other minor means will establish drainage and cure a large percentage of cases. Bulging of the eye, edema of the lids or upper lip, persistent fever, persistent severe headache,—not to mention brain symptoms—are indications for immediate radical intervention.

When we have to deal with a *chronic* empyema the decision is much more difficult. Every operation of the frontal sinus, for example, has to be considered as dangerous. Right here I wish to emphasize the fact that the results of operative procedures on this sinus are most satisfactory. I have had two cases that left the hospital on the fourth day after the operation and were completely cured in a remarkably short time. At a meeting of one of the

*Or are these symptoms only due to an outbreak of a latent empyema?

local medical societies I presented ten consecutive cases of operation for chronic frontal sinusitis that had recovered in a very satisfactory manner. In the next case operated upon, the patient,—a strong healthy woman of 27 years,—died of brain infection. Keeping that last accident in mind, I would ask: Shall we postpone an operation so long that perhaps the pus breaks through into the bulbus spontaneously or forms an abscess of the frontal lobe, with a fatal termination; or shall we leave the decision to the patient? The last proposition is considered the wisest by many, but I absolutely condemn it. A patient, no matter how intelligent he may be, is never in a position to judge what is best for him. We have to do that for him and take our chances. True enough, a radical operation is not always a radical cure, and in some instances the patient may succumb to an operation. But if you watch a chronic case carefully you will be able to judge whether or not it is necessary to operate. Symptoms like those mentioned above, in referring to acute or latent cases, will have to be considered also as strict indications for radical intervention.

But take a case with a chronic purulent discharge and occasional headaches which may at times become quite severe. If the patient is anxious to get rid of his trouble, or if he cannot properly follow his vocation on account of its presence he will readily submit to the radical operation proposed by you. If these same symptoms, however, do not impair the patient's health I should hesitate to suggest an operation, for such patients would rather endure all these slight ailments than take even a remote risk of dying soon after its performance. As much as it is our duty to insist with all our authority upon immediate intervention in cases with the urgent symptoms mentioned above, there is no justification for *persuading* a patient to undergo a radical operation in a case like the one just mentioned. It requires large experience, good judgment, and careful attention on the part of the physician to determine when to operate, and the best men may occasionally disagree as to its necessity.

In presenting the histories of some of the cases seen by me, you will note that some of the patients who died after operation might have been saved if it had been performed earlier, while others might still be alive if it had not been done at all. Permit me first to report some cases of cerebral infections of *dental* origin. Although this class does not strictly come within the scope of our theme, they have all been referred to my service at the hospital and similar ones have probably come under your own observation. Besides, the infection often spreads through the sinuses before affecting the brain. In this category, however, are not included those chronic empyemas

of the antrum due to carious teeth. These cases have been recognized for many years; in fact, ever since the beginning of our knowledge of sinus disease. What I am alluding to are the acute infections following extraction of teeth, and of that class I have seen an unusually large number. This is due to two factors: The hospital to which all these cases were brought is situated in the poorest and dirtiest part of Manhattan, and it is more than likely that these persons were infected in their own tenements. Moreover, many of these infections were undoubtedly due to negligence on the part of the dentist. This is not an accusation against American dentistry, for we all know that its achievements have been remarkable. American dentistry is superior to that of all other countries, and we laryngologists who have adopted many an instrument and device invented by dental surgeons fully appreciate that. But that many dentists utterly neglect all asepsis is a matter of common knowledge. Of course, an infection may occur in spite of the utmost care, but I have seen many cases in which the dentist was not free from responsibility. Let me give you an example:

E. B., a poorly nourished child, 6 years old, had suffered from toothache several days before admission to the hospital. A tooth was extracted two days later, and very soon afterward the face began to swell. Pus was discharged from the socket, the face became painful and continued to swell more and more, together with the lips and the eye on the affected (left) side. Fever was present. On admission, the child was stuporous. There was strong fetor *ex ore*, and marked swelling of the face, which now extended to the right side, so that both eyes were closed. Large amounts of purulent discharge. Temperature 104.2° F.; pulse 150 to 180; respiration 36 to 44. The general condition constantly grew worse. To reduce the very pronounced cellulitis, several incisions were made but no pus was found. Death occurred from septicemia three days after the operation. The report of a physician, who happened to be present at the time of the extraction of the tooth, leaves hardly any doubt that the infection was to be attributed to the carelessness of the dentist.

Another case very similar to the one just mentioned occurred last summer:

Sam W., aged 40; storekeeper; admitted June 9, 1913. Sudden onset after tooth extraction, with chills and fever, restlessness, delirium, swelling of cheek, anorexia and constipation. His present illness dates back to seven days before admission, when patient, after having had his second upper bicuspid tooth extracted, was suddenly seized with chills, followed by high fever recurring prac-

tically every day, swelling of right side of face and upper part of right side of neck, restlessness and delirium; the last had been almost constant for past three days except when asleep and was of a maniacal character. He did not ask for food but seemed very thirsty. There were no urinary or respiratory disturbances.

Operation the same day. The antrum was opened and a great deal of pus was found. The same condition was present in the frontal sinus. There was a defect at the upper inner wall through which the dura was bulging. On incision, pus was evacuated. On following day, exitus letalis, due to septicemia. In this case of abscess of the brain, a colleague witnessed the extraction of the tooth and he too volunteered his opinion as to the absence of asepsis.

The clinical picture is different in a number of other infections of dental origin. In these cases the sinuses are not involved and the infection most likely is transmitted by way of the lymphatics to the meninges and brain. It is quite useless to open the sinuses as one would find nothing pathological microscopically. All these cases give an absolutely bad prognosis.

Of much greater importance are the cases of brain infection originating in the *accessory sinuses,* and of these the most prominent are the affections of the frontal sinus. Patients with empyema of this or the sphenoidal sinus are in constant danger whenever there is insufficient drainage. Even with drainage established the sinus may close up at the slightest provocation and retention of pus with its sequelae may ensue. For that reason, such patients should be under constant supervision. Fortunately, nature assists in many instances. But, as physicians, we cannot rely upon mere luck or nature. It is of prime importance, therefore, to decide when to advise a radical operation in these cases. With that in view, some cases are narrated here, ranging from the simplest to the most complex.

Case 1. S. A.; aged 29; merchant; has not been able to breathe through his nose for the last three years. Left-sided headache at times, and discharge. He had seen several specialists and had had the septum straightened and both middle turbinates removed. The diagnosis of chronic empyema of the left frontal sinus is positive. In spite of the advice of his family physician I did not urge the necessity of a radical operation and the empyema has remained in about the same condition for the last two years.

Case 2. Mrs. L. R.; aged 48; had suffered from "catarrh" for many years. After an acute tonsillitis there appeared a profuse muco-purulent discharge from the nose. This ceased a few days

ago, and since then there had been severe frontal headache and slight rise in temperature. Diagnosis: Acute empyema of left frontal sinus and right antrum. The left turbinal was removed immediately, but the patient felt worse. Headache more intense and total loss of appetite. Washing out the sinuses gave little relief. As the daughter of this patient is a physician she could watch the case carefully. More than once in the course of the next ten days I was tempted to advise radical operation, when one day there was an immense discharge of pus and patient experienced immediate relief. She has been well for half a year. No doubt the opening of the frontal sinus was clogged higher up and patient was in danger until it was freed.

In marked contrast to this case is one reported by the writer in the fall of 1908, the history of which may be briefly recorded again.

Case 3. The patient, a woman of 25, came to the clinic with an acute suppuration of the right frontal sinus. The middle turbinated body was not removed because her family physician objected. Several weeks afterward she returned with edema of the eye and cheek, retention of pus, vomiting, etc. Operation revealed an abscess of the frontal lobe of which she died four days later. There is little doubt that this woman's life would have been saved by an early operation on the frontal sinus, or perhaps by the simple removal of the turbinal.

I shall not mention the cases reported by me in 1910, which can be found in THE LARYNGOSCOPE (January, 1910), but ask permission to describe several new cases which I think you will find of great interest.

Case 4: Stanislaus K.; aged 35; chef; was referred to me through the kindness of Dr. D. of this city on April 8, 1913. Patient said that he had recovered from an attack of appendicitis a week ago. A few days later, his head ached over the right temple, the pain spreading to the center and then to the back of the head.

The nose was free. Dr. D. had seen him on April 4, and examination of the eyes disclosed the following conditions: *"Conjugated deviation* of the eyes to the right. R>L=0.5; V=½. Presbyopia, D. III. Ophthalmoscopically: Slight congestion of both optic nerves, with hyperemia. R>L. Field normal; no scotoma; no enlargement of blind spot."

As the doctor had some suspicion in regard to the accessory sinuses, he sent the patient to me. The man was led into my office by his wife, his gait being unsteady. In walking he leaned toward the right and he said that he also felt dizzy while lying in

bed. Butted into objects to his right. On examination, an acute right frontal sinusitis was found and the sinus was irrigated. Some pus was evacuated and the patient felt easier immediately.

April 10: Part of right middle turbinate removed. Daily irrigations of sinus. *April 11*: Could not move his eyes to the middle line. This occurred after syringing the sinus. *April 17*: Vomited and felt worse, but after the syringing was better again. The question of a radical operation was seriously considered but patient did not consent.

At the beginning of June, 1913, I saw him for the last time, when his condition had improved remarkably. Dr. D.'s report of June 15 says: "Conjugated deviation as well as congestion of optic nerves *has disappeared*. Pupils and muscles were always normal, i. e., no paralysis. Diagnosis: Some local focus beyond the corpora quadrigemina. Embolus or frontal sinus affection?"

The writer is inclined to attribute the whole process to the frontal sinus primarily. What followed afterward is difficult to decide; whether it was a mere pressure on the frontal lobes or meningitis will probably be determined later, for sooner or later the symptoms will again recur. The writer does not know the patient's whereabouts since June, and would be thankful for any information.

Case 5: Miss J. S., aged, 25, was referred to me by Dr. Henry S. Oppenheimer. She complained of pain in the eyes and in the middle of the forehead, for which she had consulted several oculists. Dr. Oppenheimer did not find any cause for the pain in the eyes, and sent her to me. Diagnosis: Chronic empyema of left frontal sinus and left sphenoidal sinus. The x-ray plates showed cloudiness over both frontal sinuses and over the region of the anterior ethmoid cells. The frontal sinuses are small, but very deep in the antero-posterior direction. The sphenoidal cells are apparently small, but the air spaces are not occluded." We shall see that this latter statement was erroneous.

The usual treatment was inaugurated, i. e., the establishment of drainage for the left frontal sinus and sphenoidal sinus, with the result that the patient felt better while under treatment. Then she was sent to the mountains for three months. On her return she was like another person—no pain, no discharge—and appeared perfectly healthy. In the middle of the following winter, however, the old trouble recurred, and the latent empyema again became active. At this stage a radical operation was advised but was refused on account of the possibility of a scar. In the summer of 1912, she again went to the mountains and returned apparently well, only to show the old symptoms again in the winter of 1912-13.

Finally, in April, 1913, the family decided to have the operation performed. That was about a year and a half after I had first advised it. On April 2, 1913, the left frontal sinus was opened, and it was found to have a wide communication with the other side. The dura was exposed at two places on the inner wall but appeared normal. The left sphenoidal sinus was of enormous size.

April 5: Patient felt comfortable, although always restless; the night before unconsciousness. Temperature, 103°-104° F.; pulse, 74-80. *April 7*: Very restless. Right arm apparently paralyzed; in left arm, clonic cramps. *April 8*: Convulsions of right side of face. Stiffness of neck; pupils narrow; little reaction. Babinski, positive. Lumbar puncture showed high pressure and dark fluid. *April 13*: Eleven days after the operation, exitus letalis. Autopsy not permitted. From the clinical symptoms there was reason to suspect meningitis, and, perhaps, a thrombus in the sinus longitudinalis.

Epicrisis: Here we have a case that at no time developed severe symptoms and at no time gave urgent indications for immediate operative intervention, yet on account of the constantly recurring symptoms, the chronicity of the case, and the impossibility of curing the disease by intra-nasal operation (septa in the frontal sinus) the writer advised radical operation. If this had been done when first advised it is probable that we should have found the inner wall of the frontal sinus intact and might have saved the patient's life.

It may be added that the x-ray findings are of interest. At the operation the sphenoidal sinus was found to be of extraordinary large size, while the skiagraphs indicated a small sinus. The frontal sinuses, on the other hand, were small but the antero-posterior diameter was very great on the skiagraphs. Is there a possibility of the sphenoidal sinus "overshadowing" the frontal sinus?

In connection with this I shall mention two other cases, the histories of which are not yet published but were given to me by Professor Herzfeld of Berlin during the summer. I shall present only excerpts of these interesting cases. The first one was a man of 57, who had sustained a trauma at the inner angle of the right eye at the age of 14. After several years this finally healed, but eighteen years later he was again injured in the same region. A fistula formed which discharged pus from the right frontal sinus for seventeen years. At an attempt to close this fistula it was found that the anterior wall of the frontal sinus was absent, due to the traumatisms and former operations on the sinus. Furthermore, it was observed that the cerebral wall of the *left* frontal sinus had a small defect, with a normal-looking but bulging dura. After the operation there was a rise in temperature and exitus letalis.

The remarkable points are that the patient's mind was absolutely clear, that he was up and about, without any complaints, and that only two hours before his death coma suddenly set in. The meningitis seems to have been produced by *continuity* through a defect found in the dura at the autopsy, a defect that could not be detected macroscopically seven days previously at the operation. H. mentions especially the seat of the defect on the left side, i. e., the side affected only secondarily. This has been noted in other cases as we have already shown.

Herzfeld's second case was a man of 29, who had suffered from purulent discharge all his life. Suddenly, acute exacerbation, with fever, edema of the eyelids on both sides, etc. Operation showed a periosteal abscess and empyema of the frontal sinus. After the operation the temperature became high, and there was some headache, stiffening of the neck, etc. For these reasons, a second operation was performed. After the cerebral wall of the frontal sinus was chiseled away a mass of fetid pus was evacuated (epidural abscess). The same night, exitus letalis. Autopsy: Purulent meningitis. "If the epidural abscess had been recognized and opened sooner the patient would probably have been saved. The persistent headache and high temperature after the first operation perhaps pointed likewise in that direction." From such histories we can learn a great deal and in the interest of scientific progress it is desirable that every one should publish his cases.

In regard to suppurations of the sphenoidal sinuses mention should be made of central scotoma as one of the early symptoms of cerebral involvement. This was demonstrated in a case published by the writer in 1910 (loc. cit.), as well as by W. Schulze *Passow's Beitrage,* 1911, p. 48.

In conclusion, the writer would say that he has operated on a great many cases of suppurative sinus disease—over 150 of frontal sinus affections alone—and that his death-rate has been remarkably low. In the last mentioned class he had only six fatalities. In spite of this, the so-called radical operations on the frontal sinus must be considered as dangerous and should be undertaken only after very careful deliberation. That even then mistakes will occur has been shown in more than one instance. Some cases which might survive for years with a defect in the cerebral wall will die of post-operative meningitis, while others will die if the operation is postponed. These and other problems will have to be solved by the combined efforts of all laryngologists. Their work will, we hope, clear up this very interesting question of rhinogenic brain involvement.

1003 Madison Avenue.

HYPERTROPHIED TONSILS INTERFERING WITH THE ACTION OF THE PALATE AND CAUSING DEFECTIVE SPEECH.*

DR. G. HUDSON-MAKUEN, Philadelphia.

One of the many objections offered to the removal of the faucial tonsils is the fact that the operation is liable to be injurious to the voice and speech, but little reference has been made to the fact that both the voice and speech may be impaired by not doing the operation or by leaving the tonsils intact.

I have previously called attention to the effect upon the palate of hypertrophied and degenerated tonsillar masses, the larger ones, by reason of their bulk and consequent pressure upon the pillars, interfering with the action of the palate and the smaller, degenerated and catarrhal masses, by reason of their sepsis and by the spread of their infection, appearing to so obtund the nervous mechanism of the palate as to cause a sluggish or paretic action of its muscles.

The effect upon the speech is similar to that of insufficiency of the palate from other causes, such as a cleft palate or other forms of paralysis.

The palate is a far more important organ in relation to the human economy than it is commonly supposed to be, and its function in phonation and articulation is not very generally understood. The palate is a movable organ and it is composed largely of muscles which have their attachments in other movable organs of voice and speech, notably the larynx and tongue. The palato-pharyngii muscles have attachments in the superior cornua of the thyroid cartilage, and thus they have been called thyroid tilting and cord stretching muscles in the production of voice. They are peculiarly well adapted to the performance of this function by reason of their location in the pharynx and the upward and forward direction of their pulling force when the levator muscles are in contraction; and anything that interferes with this action of the palatal muscles, even in the slightest degree, must have its injurious effect upon the character of the voice.

Moreover, another important function of the palate, and one that appears chiefly in articulation, is what has been called a valvular function, it being for the purpose of closing the air passage from

*Read before the Section on Otology and Laryngology of the College of Physicians, Philadelphia, November, 1912.

the pharynx to the nostrils during certain of the explosive sounds of speech. A complete closure of this valve fails to take place in almost all cases of cleft palate even after a fairly successful operation has been performed, and it fails to take place also in various forms of paralysis of the levator and other muscles of the palate. The failure of this closure in a post-operative cleft-palate case is due to a lack of sufficient tissue to form the valve itself, and to a lack of sufficient contractile power in the muscles owing to cicatricial formations; and the failure of the valvular closure in paretic conditions of the palate, of course, is due entirely to the muscular insufficiency, which appears in varying degrees all the way from a mere sluggish action to a complete paralysis of the palatal muscles.

There are two conditions of the palate which accompany or follow diseases of the faucial and pharyngeal tonsils. These are: (1) a hypersensitive or hyperesthetic condition of the muscles, and (2) an anesthetic condition, the former probably being the first or more acute stage of infection, and the latter a more profound and chronic stage. On the other hand, I have found the hyperesthetic condition predominating in those cases having degenerated faucial tonsils, which on account of their markedly septic condition produce a highly congested pharynx, while the anesthetic and slightly paretic palate seems to accompany the hypertrophied tonsils, or those which interfere with the motility of the palate in a purely mechanical way.

The patient whom I shall show you is one illustrating this latter condition in a very marked manner, the tonsils themselves being obstructive because of their size rather than septic on account of disease or degeneration. Moreover, they are unusually large in their antero-posterior diameter, thus bowing the palato-pharyngii and palato-linguo muscles during their action in speech-production, and interfering to such an extent as to render the closure of the palatal valve quite impossible even when the levators are contracted to their utmost. This is a good illustration, therefore, of obstructive faucial tonsils interfering with the action of the palate and causing the characteristic defects of speech and voice.

The boy had formerly a good singing voice, but during the last few years he has been obliged to give up singing, and his speech, as you will observe, is defective chiefly because in the explosive consonants, in which the palatal valve should be closed, it remains open and there is an escape of breath through the nose. The effect is somewhat similar to that of a leaky exhaust valve in a gasoline engine.

The treatment of this condition would seem to me to be a removal of at least a sufficient amount of tonsillar tissue to permit of

a freer action of the palatal muscles. My own practice is to do a complete tonsillectomy only in those cases in which there is a marked degenerative and catarrhal condition of the tonsils with thickening of the plica and capsule generally; but in those cases in which there is mere hypertrophy of the tonsillar masses I am of the opinion that a more or less thorough removal of the tonsillar tissue only, leaving the capsule intact, although the more difficult, is the more desirable operation so far as the speech and voice are concerned, because the resultant motility of the palate is better than it is in those cases following complete extra-capsular tonsillectomy, in which we are liable to have cicatricial adhesions and contractions. This, however, is a subject for discussion, and a most interesting one because it includes the whole question of so-called tonsillotomy vs. tonsillectomy.

1627 Walnut Street.

Prevention of Adenoids. Wm. A. Brady, *Med. Rec.*, May 24, 1913.

The cause of adenoid hypertrophy in children, according to the author's deduction, is lack of fresh air and improperly and overheated living rooms. Weather-phobia and excessive indoor life in overheated rooms produces the soil upon which adenoids develop. Urge the children to play out of doors in all kinds of weather and send them to school where the open-air idea is practiced. The family should be taught to acclimate themselves to living rooms where the temperature is from 60° to 65° throughout the winter.

Lederman.

Radio-Active Substance in Treatment of Morbid Conditions of Mouth and Teeth. M. Levy, *Deut. Med. Wchnschr.*, June 5, 1913.

In cases of psoriasis of the mucosa of the mouth, in pyorrhea alveolaris, loosening of the teeth without pus, marginal gingivitis, leucoplakia of the tongue and mouth, dental fistula, and stomatitis ulcerosa, Levy found this therapy to be very effective. Ed.

ACUTE PHLEGMONOUS EPIGLOTTIDITIS.*

DR. M. D. LEDERMAN, New York City.

Acute phlegmonous epiglottiditis is an infectious process involving the submucous structures of the epiglottis and contiguous tissues. In the four cases which came under my observation suppuration accompanied the inflammatory syndrome.

The disease is characterized by a sudden onset with distinct local manifestations. A seemingly normal person experiences a sharp pain in the throat accompanied by painful deglutition and a sense of fullness or obstruction in this region. The act of swallowing soon becomes an effort and the patient is very uncomfortable and distressed. The voice is distinct and guttural. These symptoms rapidly progress and may assume a serious aspect in a few hours.

At times the attack is ushered in with a chill, followed by a rise of temperature. Headache, nausea, and general malaise may accompany the other symptoms. The course of the temperature is not regular. It is highest at the invasion, falls abruptly as the process improves, and again ascends if complications arise. The pulse does not show much irregularity, but is weak and compressible.

On inspection, the pharynx appears normal or slightly congested. Further examination shows an enormously swollen epiglottis. It is dusky red in color, three or four times its natural size, and so obstructs the laryngeal orifice that it is impossible to obtain a clear view of that cavity. In all my patients the edema extended to the ary-epiglottic folds. In two instances this infiltration was so marked as to cause difficulty in breathing. One woman was brought into the Lebanon hospital in the ambulance in a cyanotic condition. In none of the cases was there any history of previous throat infection.

In this affection the edema is usually limited to the oral surface of the epiglottis, and does not extend to the laryngeal side of the cartilage. It rarely reaches the interior of the larynx. There is an anatomical reason for this peculiarity. Schnitzler[1] states that the submucosa of the lingual surface of the epiglottis is loosely attached while that of the laryngeal side is closely connected to the cartilage,

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except in the region of the nodule. Furthermore, the submucous cellular tissue of the epiglottis extends unbroken to the latteral walls of the pharynx and to the base of the tongue; thus accounting for the infiltration at this site in these cases and in infectious diseases of the tonsil and tongue.

While edema of the ventricular band is sometimes present we seldom see a serous extravasation of the true cord because of its closely attached musculature.

Acute edematous diseases of the epiglottis and larynx is rarely seen in children. In a series of 245 cases collected by Sestier,[6] only twice did the affection occur as a primary lesion.

Our colleague, Clement F. Theisen,[2] called attention to acute infection of the epiglottis some years ago, in his very instructive report of three cases of angina epiglottidea anterior. The attack came on suddenly, with elevation of temperature and symptoms associated with an acute septic process. In all the cases there was considerable edema of the anterior surface of the epiglottis, and in two of them the ary-epiglottic folds were involved. The subjective symptoms were similar to those I have mentioned. No purulent secretion followed the surgical treatment. Nevertheless, the bacteriological examination of the exudate showed the presence of a mixed infection (staphylococcus and pneumococcus, and streptococcus and pneumococcus). These examinations were made from the secretion taken from the deeper tissues immediately after the infiltrated submucosa had been scarified and were not surface contaminations.

In two of my cases the same micrococci were found in the purulent discharge; therefore such cases should be considered acute primary infections. That this disease is not of recent origin is shown in Theisen's article, where he refers to a case reported by Mainwaring in 1791, showing all the typical symptoms.

The infiltration that follows the invasion of any pathogenic bacteria may be either serous or purulent in character.

In commenting upon the origin of septic infections of the throat, Semon[3] calls attention to the conclusions of Dr. Max Jordan's[4] investigations on the "Etiology of erysipelas." Jordan states: (1) There is no specific pus microbe. Together with the streptococcus and staphylococcus there are a great number of bacteria which will cause suppuration. (2) That pyogenic micrococci can produce all forms of inflammation besides the purulent variety. Semon further says that in these acute septic lesions, though they differ somewhat in their appearance and location, pathologically they are identical and only differ in their virulence. Furthermore, it is absolutely im-

possible to differentiate between the edematous and the purulent types of infection.

In considering this phase of the disease Theisen[2] quotes the observations of Welch, who found that when the pneumococcus of the edematogenic variety (diplococcus lanceolatus) was injected subcutaneously into the tissues of some of the lower animals, it uniformly produced extensive local subcutaneous edema. He expressed the opinion that the pneumococcus was a factor in the production of the edema in his cases.

That certain regions are primarily attacked is probably due to a break in the continuity of the mucous membrane, thus permitting ready entrance of the pathological factor. When we consider the numerous forms of bacteria constantly present in the cavities of the upper air passages, it is surprising that we do not encounter more cases of these serious infections. The tissue resistance must be very great.

In the cases herewith reported there were no distinct etiological factors to account for the infection of the epiglottis except in one instance. This patient had been in a sanitarium three years before for the treatment of pulmonary tuberculosis, but was discharged in good condition. Three of the patients were females, and the other was a young man. All recovered.

Case 1: This case has been previously reported. A young married woman, 25 years of age, retired in good health. At 7 o'clock the next morning she was suddenly wakened by a sharp pain in the throat, which persisted throughout the day, being much aggravated by swallowing. A feeling of fullness in the throat, with pain in the right ear were also experienced. Severe headaches, pains in the back and limbs, chilliness, nausea and vomiting were accompanying symptoms. The temperature at 3 p. m. of that day was 104°; pulse 90. Nothing abnormal was seen in the pharynx at that time by the attending physician. Twelve hours after the onset, a further examination was made by a laryngologist who found the epiglottis very edematous and partially hiding the laryngeal structures, which, however, were normal in appearance. Local treatment was instituted with free purgation. Ice was applied externally and internally, the larynx was sprayed with adrenalin and cocain solution, and the epiglottis was painted with a 50 per cent solution of argyrol. The edema gradually increased during the night, and an area of induration appeared on the lingual surface of the epiglottis near its base on the right side. The serous infiltration had spread to the adjacent pharyngeal wall, base of the tongue, and aryepiglottic folds. The

next morning at 8 o'clock, I saw the young woman in consultation. She was resting upright in bed, had an anxious expression, and spoke in a guttural voice with considerable difficulty. A constant effort to clear the secretion from the throat was noticed. Respiration was embarrassed and the patient gave the impression of being very ill. She remarked that the lump in the throat felt much larger than on the previous day, and that deglutition was extremely painful and difficult. Dr. Barnert, who was in attendance, stated that the local condition had increased very rapidly and had assumed a serious aspect.

On inspection, I found the pharynx quite normal, but the laryngeal mirror brought to view an enormously swollen epiglottis, dusky red in color. There was an indurated region at the base of the epiglottis more prominent than the neighboring tissues, while the edema extended to the base of the tongue and to both ary-epiglottic folds. There was also some infiltration of the right ventricular band, so that only a portion of the interior of the larynx and the left vocal cord was visible. The latter was not affected. Immediate operation was advised, and on making a deep incision into the indurated area we were much pleased to see about a half dram of foul-smelling pus come out. The epiglottis was further scarified to lessen the edema. Following this treatment, with the continuance of the adrenalin application, ice internally and externally, the local condition improved for several hours. Then a re-accumulation of pus caused a return of the edema at the base of the tongue and ary-epiglottic folds. Dr. Barnert reopened and dilated my original incision with a blunt instrument and gave exit to considerable retained purulent secretion. A leech was applied to each side of the neck and in two hours the patient felt greatly relieved. The temperature returned to normal, but deglutition remained quite painful until a moderate-sized slough came away. In a few days the epiglottis had resumed its normal outline. On the eighth day the patient was discharged from observation, with nothing to show for her alarming experience except a shallow depression at the site of the infection. Examination of the pus showed chains of streptococci and some encapsulated diplococci, probably the pneumococcus.

Case 2: Mrs. P., 26 years old, was brought to Lebanon Hospital in the ambulance during the night of December 15, 1912. Three days prior to admission she felt chilly and a sudden pain in her throat. She soon afterward experienced difficulty with pain in swallowing, also some disurbance in breathing, and a constant desire to clean the throat from secretion. She had an irritating cough.

These symptoms gradually became aggravated until she was brought to the hospital.

On her arrival, the house-surgeon found the patient cyanosed and dyspnoeic. In a muffled voice she complained of great distress and obstruction in her throat. Her general appearance indicated a grave condition. The throat was immediately examined but nothing abnormal was found in the pharynx except a marked pallor of the mucous membrane of the soft palate and pharyngeal wall. The epiglottis was edematous and greatly enlarged. The edema involved the ary-epiglottic folds on both sides, and only a restricted view of the interior of the larynx could be obtained, which did not seem to be involved. The temperature was 102°; respiration 28; pulse 94. Examination of the chest showed tactile and vocal fremitus slightly increased with some dullness on right side. Voice and breath-sounds could be heard distinctly, both anteriorly and posteriorly at the same side. No active symptoms were noted. Palliative treatment consisted of free purgation, adrenalin spray, 1-3000, with ice internally and externally. Tracheotomy instruments were kept at hand, as the woman's condition demanded that all possible precautions be observed. The symptoms subsided during the next few hours, and when I saw her the next day the face was but little cyanosed, though phonation and respiration were decidedly affected. She was fairly comfortable in an upright position. Deglutition was very difficult and painful, and only accomplished after considerable effort which brought on short paroxyms of coughing. The pharynx revealed nothing of especial moment excepting the pallor previously mentioned. The appearance of the epiglottis suggested a small sausage. It was bluish-red and almost entirely obstructed the superior opening of the larynx. No distinct picture of the interior could be seen. The edema was very decided in both ary-epiglottic folds; the arytenoids were very prominent, but showed the translucent nature of the infiltration.

Under cocain anesthesia, the epiglottis was incised, but only after several deep incisions did I locate the pus-cavity. In this instance also a considerable amount of foul-smelling pus was discharged. The ary-epiglottic region was incised to further drainage. The after-treatment consisted of half-hourly applications of cold 25 per cent ichthyol-glycerin mixture. Ice was applied to the neck and was given to the patient between treatments. Ten grains of urotropin in solution were administered every four hours for its antiseptic effect. Fluid diet was continued until the local condition permitted solid food. In twenty-four hours there was sufficient

improvement to lengthen the interval between the ichthyol applications. No attempt was made to disturb the patient during sleep so long as the respiration was not too labored. This method of treatment was continued until the subsidence of the local trouble. No further complications developed and the patient left the hospital at the end of eleven days, in good condition. The temperature never rose above 102°, and gradually dropped to normal. Examination of the purulent discharge showed a streptococcus infection. No tubercle bacilli were found, and I consider that this was an acute infectious process independent of her pulmonary condition. This patient also received two doses of streptococcic vaccine (P. D. & Co.) 40 millions each.

Case 3: R. K., female, 22 years of age, single, admitted to Lebanon Hospital February 9, 1913. Never had any previous serious ailments. A few days prior to admission she felt a sudden pain in the throat, accompanied by painful and difficult swallowing and some interference with breathing. These symptoms gradually progressed until it was necessary to enter the hospital. Physical examination was negative; temperature 101°, pulse 104, respiration 28. The pharynx was slightly congested, but the epiglottis was decidedly swollen, dusky red, with the edema extending to the left ary-epiglottic fold. She could swallow only fluids, with considerable effort, and also complained of a lump in her throat. She was given the usual local treatment (ichthyol and ice). When I examined her on the following day the same state of affairs existed, but the patient stated that she felt better than when admitted and had a fair night. After the parts had been cocainized, a small yellowish focus about 3 mm. in extent was seen at the base of the epiglottis on the left side near the root of the tongue. This was incised and a few drops of pus observed. The epiglottis and ary-epiglottic fold on the same side was also scarified. The ichthyol-glycerin and ice treatments were continued as before, with increasing intervals, as the local picture improved. No further trouble appeared, and the woman left the hospital at the end of nine days in good condition. The interior of the larynx was not affected. Unfortunately, no bacteriological examination was reported. Urotropin was administered in this case. This was a milder type of the disease under consideration.

Case 4: G. D., male, 26 years old, came to the throat department of the Lebanon Hospital Dispensary in the afternoon of April 22. He complained of a fullness in his throat, painful and difficult swallowing. His symptoms had started two days before, but he

thought it was a simple sore throat, and used a gargle of peroxid of hydrogen. He recalled that he had felt chilly at the beginning of the attack.

As I was visiting in the Hospital at the time, the young man was brought to me for prompt surgical treatment. His temperature was 100.8°. On examination, I found an enormously swollen epiglottis, with an edema of the base of the tongue reaching half way to the free surface of the epiglottis. Some purulent discharge was seen along the right side of the lingual attachment of the epiglottis. Both ary-epiglottic folds were edematous. A restricted view of the larynx showed no involvment of the interior. Under cocain anesthesia, a liberal incision was carried into the infiltrated mass at the base of the tongue and epiglottis, and a considerable quantity of pus was discharged. The incision was followed by free bleeding. The opening was dilated by means of a laryngeal applicator to insure complete drainage, and several scarifications were made into the edematous epiglottis and arytenoid region. In spite of emphatic protest and explanation of the danger of sudden suffocation, the patient assumed all responsibility, and walked to his home a few blocks from the hospital. The ichthyol-glycerin mixture was prescribed to be applied in the usual way, together with ice applications and active purgation. Fluid diet was also enjoined.

The following afternoon, April 23, 1913, the young man reappeared at the hospital, greeted me smilingly, stated that he felt much better, but objected to the taste of that black medicine. There was a decided improvement in the local process. The abscess-cavity was still draining, and the edema had diminished considerably. A good view of the larynx could now be obtained and showed no involvement. The ichthyol-glycerin treatment was continued at greater intervals, and the patient instructed to return for further observation. His temperature at this visit was normal.

Not having seen the case again I infer that his throat needed no further attention. The bacteriological examination showed a staphylococcus infection.

At my initial examination, I was surprised to find so little disturbance in this patient's breathing, in the presence of so much edema and swelling. This case seems to corroporate the statement of Gougenheim "that the respiratory difficulty is due to the immobility of the crico-arytenoid articulation, and not to aspiration of the swollen ary-epiglottic folds."

To emphasize the serious nature of acute infectious disease of the epiglottis and larynx, I have only to direct your attention to the

four fatal cases mentioned by Theisen in his interesting paper, and to the five similar results in a series of fourteen cases which Semon[3] reports in his classic paper.

We must bear in mind that alarming symptoms appear suddenly but may subside in a few hours under active treatment. When local measures fail to bring about the desired results the question of tracheotomy arises. Moure states that in these cases intubation is a serious, difficult and dangerous operation, and that tracheotomy is the method of choice. Semon remarks that we must be very careful in adding further shock in these desperate cases. Seven of his patients operated upon by tracheotomy did not recover.

Some of the complications that have appeared during the course of septic infections of the upper air passages, are: pleurisy, pericarditis, endocarditis, pneumonia, peritonitis, and meningitis.

SUMMARY: Acute infectious epiglottiditis suddenly appears without warning. Its progress is rapid and its symptoms are characteristic. It is seldom seen in children.

Though the four cases herewith reported were primary manifestations, this disease may appear secondary to infective conditions of the teeth, tonsils, pharynx, or tongue.

The ichthyol-glycerin treatment has proved very beneficial following the surgical intervention. The stock or autogenous vaccines should be considered in the treatment of these cases.

That this is not a rare condition, is proved by the fact that my three last cases were seen within a period of five months in the same institution.

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58 East Seventy-fifth Street.

ON THE USE OF ELECTRO-MAGNETS IN THE EXTRACTION OF METALLIC BODIES FROM THE TRACHEA AND BRONCHI, WITH REPORT OF CASES.*

Dr. Samuel Iglauer, Cincinnati.

Electro-magnets have been employed in a very limited number of cases in the extraction of foreign bodies from the deeper air-passages. With the perfection of the bronchoscope the use of magnets has rightly fallen more and more into the background. It is the purpose of this paper to report two cases in which the magnet was tried, and to point out that there still remains a limited field in which magnets may be advantageously employed.

In the literature eleven cases are recorded in which extraction by electro-magnets was undertaken. Seven of these cases were successful and four resulted in failure. To this list should be added the brilliant case which Dr. Lynch[1] has reported to-day, and one success and one failure of my own.

Garel,[2] in February, 1901, reported the case of a child, 18 months old, in which a nail had been lodged in the right bronchus for two months. A radiogram showed the nail head-up. A high tracheotomy was made and while the incision was held open with retractors an eye magnet was placed in the opening of the air passage. The nail became dislodged and instantly attached itself to the magnet. The nail was 2¼ inches long (6 cm.) and the magnet had attracted it through a distance of from 5 to 6 cm. (The child recovered.)

Piechaud's[3] case was recorded during the same year as that of Garel. A nail had become lodged in the left bronchus of a child 3½ years of age, and had been *in situ* for about six weeks.

A metal sound, curved on the end, was introduced through a tracheotomy, and was guided into the bronchus. The proximal end of the rod was then brought in contact with an electro-magnet and the nail was thereby attracted to the distal end, and successfully removed.

Two years later, Lermoyez and Guisez[4] reported the case of a man 26 years of age who had inspirated a small carpet tack eight weeks before. A radiogram at first revealed the tack (1 cm. long, with a head ½ cm. in diameter) in one of the divisions of the right bronchus. After an unsuccessful bronchoscopic examination, the tack passed further down and subsequently lower bronchoscopy

*Read at the Eighteenth Annual Meeting of the American Academy of Ophthalmology and Oto-Laryngology, Chattanooga, October 29, 1913.

showed the tack 1 to 2 cm. from the orifice of a bronchus of the third order. A specially constructed electro-magnet was then introduced through the tracheotomy incision and the tack was removed at the first attempt. The whole procedure did not require five minutes. (Recovery.)

In September, 1904, Hosmer[5] reported the removal of a shingle nail from the left bronhcus of a child. The nail which had been *in situ* for 13 days was extracted by an electro-magnet provided with a long tip which was introduced through a tracheal incision. (Recovery.)

Burk[6] records the case of a child who had inspirated an iron screw eleven days before. The screw was first located in the left main bronchus but extraction with a bronchoscope failed at the first attempt. A radiogram subsequent to this examination showed that the foreign body had lodged in a lateral bronchus, but lower bronchoscopy failed to reveal its presence. Thereupon an elongated electro-magnet was introduced through, and 2 cm. beyond the bronchoscope, and the screw was removed without difficulty. (Recovery.)

The case of Dr. P. H. Hickey[7] was a very unusual one. A child, 3 years old, inspirated a steel safety pin. The x-ray examination showed the pin in the trachea immediately below the larynx. Tracheotomy failed to expose the pin and the fluoroscope showed that it had passed downward until its lower end was in the right bronchus. "The child was placed under a giant magnet, the tip of the magnet being placed over the locality against the chest wall where the rays showed the pin was located. The giant magnet was then moved in the direction of the child's head and a slight cough showed that the pin was moving with the magnet. The tracheotomy tube was removed as the tip of the magnet approached the neck and the pin was pulled up through the trachetomy wound." Recovery. The pin had been in the bronchus for about thirty-six hours.

Martin[8] reported the case of a boy, 8 years old, in whose right bronchus a screw 1¼ inches long had been lodged for five months. Subsequent to the inspiration of the foreign body the patient had developed an abscess of the lung which had been drained through a resected rib, but the radiogram showed that the foreign body had not been removed during this operation. Under the guidance of the x-rays, a large forceps was passed through the external opening to the screw. A giant magnet was then brought into contact with the handle of the forceps and the screw was pulled out through the attraction of the magnet. Recovery.

In two unfortunate cases Massei[9] was unable to extract foreign bodies by the aid of an electro-magnet. In the first patient, aged 3 years, a glass-headed pin was lodged in a bronchus, and in the second case a nail had become impacted (forty days) in the right bronchus of a boy of 8 years.

An unsuccessful case was reported by Brokaw[10], and one by Hubbard.[11] In the latter case an upholster tack had become lodged in the left bronchus of a child of 9 years. Attempts at extraction with a magnet were unavailing as the foreign body was impacted.

Brokaw's experience was almost identical with that of Hubbard, but he later succeeded in withdrawing the foreign body with a forceps introduced through an endoscopic tube.

REPORT OF AUTHOR'S CASES.

The following case presents some very interesting and unusual features:

Case 1: The patient, S. R., male, aged 6 years, was first seen in consultation with Dr. F. Leever, on August 22, 1912. His parents stated that about three and a half years ago he was supposed to have swallowed a metal screw. The stools had been watched but the foreign body had not been found. No particular symptoms were noted at first, but after some time the child suffered frequently with croupy cough and was treated for bronchitis. In February, 1912, he went through a severe attack of pneumonia, lasting seven weeks. After the acute stage had passed he came under the care of Dr. Leever who found a consolidation of the lower lobe of the left lung. This failed to resolve during the next three months. During this period he had a very protracted cough with mucoid expectoration containing at times traces of blood, and accompanied by a septic, irregular fever, ranging from normal to 103°, 104° and became "reduced to a skeleton," (weight 37½ lbs.). In the course of his illness the child developed clubbed fingers and toes, as well as an inguinal hernia.

On June 8, 1912, he suddenly expectorated a large amount of foul-smelling pus, slightly streaked with blood. After this, expectoration became very profuse, as much as 30 ounces a day, and the child always had a pus-basin with him. Repeated examinations for tubercle bacilli were negative. After a time the general condition improved somewhat so that the child was able to walk.

The diagnosis of an unresolved pneumonia with abscess formation was made by Dr. Leever and Dr. Lamb. Accordingly, on August 22, 1912, a radiogram was made by Dr. Lange. This showed a consolidation of the left lower lobe of the lung, in which an ab-

scess cavity containing a foreign body (a screw?) could be seen. It lay head-downward at the termination of the left bronchus, opposite the fourth rib anteriorly and the seventh rib posteriorly. (Figure 1.)

On August 24, 1912, under general anesthesia, (atropin hypodermically) upper bronchoscopy was undertaken. Owing to the dyspnea and profuse secretion this was soon abandoned. A tracheotomy was then made through which a bronchoscope was introduced into a large abscess cavity, at the termination of the left bronchus. A large amount of pus was pumped, mopped and coughed out through the tube, but the secretion was so profuse that after

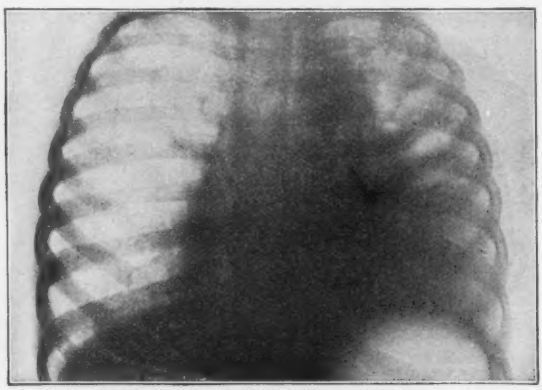

Figure 1. Radiogram showing an abscess of the left lung containing a metal screw, (retouched).

prolonged search the examination was discontinued and a tracheotomy tube was inserted.

Following this unsuccessful bronchoscopy, the giant-magnet designed by Dr. Ranly[12] was procured. This magnet, with a lifting power of 6000 pounds is provided at one pole with a flexible extension in the shape of a heavy chain through which the magnetic force may be applied, where desired. (Figure 2.)

In addition to this, a tracing was taken from the x-ray plate, according to which a solid steel bar was patterned so that it would correspond to the line of the trachea and left bronchus. This rod was 9¼ inches long and ¼ inch in diameter and was flattened on the convex side so that it would not obstruct the right bronchus. (Figure 3.)

On August 29, 1912, under local anesthesia, (reinforced by atropin), lower bronchoscopy was again tried, but owing to the profuse secretion, again failed as before.

A steel tube was next passed through the bronchoscope into the abscess cavity and was then connected with the magnet, but this

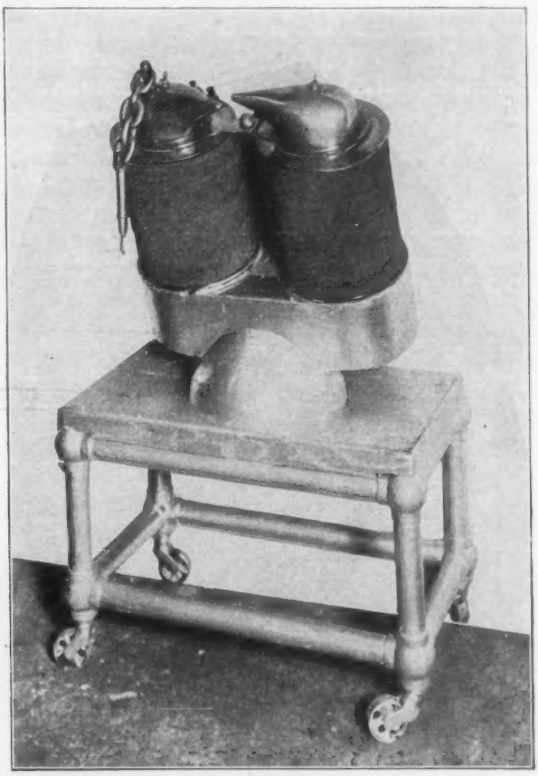

Figure 2. The giant-magnet of Dr. John Ranly.

failed to draw out the foreign body. The bronchoscope was then removed and the solid steel bar, guided by touch, was passed through the trachea and left bronchus into the abscess cavity.

The chain from the magnet was brought into contact with the bar and the current turned on. The operating table and patient were then slowly pulled away from the magnet and the steel

emerged from the trachea with the screw dangling on the end. The screw was badly corroded and measured ¾ of an inch (2 cm.) in length. (Figure 4.)

Subsequent History: The tracheal canula was first left out, but it became necessary to re-introduce it the same night. It was worn for twenty-four days thereafter, since expectoration continued profuse, and could be readily expelled through the canula. Following the removal of the foreign body the patient gradually improved and gained in weight, while the expectoration diminished for several weeks, only to increase again after that.

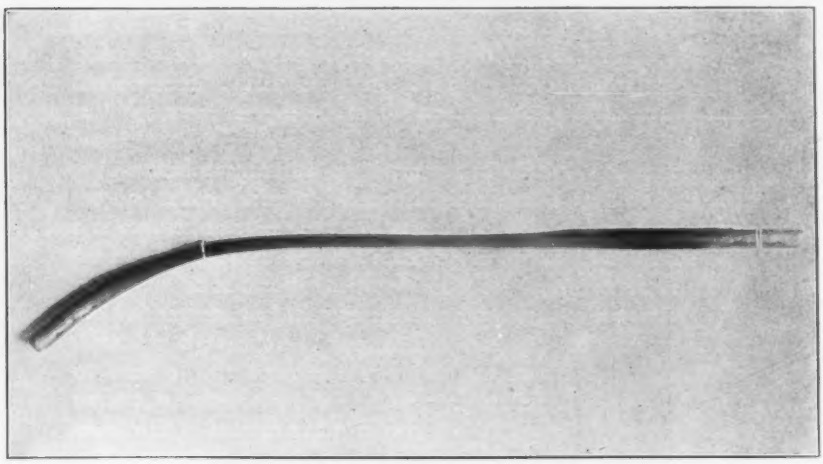

Figure 3. Steel rod which was magnetized and with which the screw was attracted and extracted.

Six months after the foreign body had been removed, the lung still remaining consolidated, (slight fever, profuse expectoration, etc.). It was decided to drain the abscess externally. This was done by Dr. Langdale. A second drainage operation became necessary three months later.

At the present time, the wound is still discharging somewhat; expectoration has almost ceased, and the patient has gained 15½ pounds in all.

Remarks: The unusual features of this case were the length of time the foreign body had been *in situ* and its accidental discovery by the x-ray after the diagnosis of abscess of the lung had been

made. The ease with which magnetic extraction was accomplished after bronchoscopy had failed is also worthy of note.

Case 2: The following case is as interesting as Case 1. Miss D. J., aged, 19, was seen in consultation with Dr. Mithoefer on October 1, 1912. She stated that a few hours before she had put some pins in her mouth and had choked on one of them. Some one in the factory where she worked had attempted to extract the pin with her fingers, but to no avail. Laryngoscopic examination at first failed to show the pin. A radiogram was therefore taken by Dr. Lange, and this revealed the pin behind the epiglottis.

The laryngoscope then showed the foreign body in a vertical position immediately behind the epiglottis, with the head of the pin resting at the anterior commissure and the tip embedded loosely in the epiglottis. It seemed as if the pin might at any moment topple off into the trachea.

Upon request the patient produced a pin which she declared was identical with the one she had swallowed. This companion pin

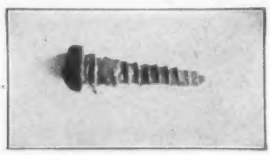

Figure 4. The foreign body, actual size, removed by magnetic attraction.

proved to be easily magnetized, and it was explained to the patient that we desired to extract the pin with a magnet, as I feared that the forceps might easily dislodge the foreign body.

The patient was taken to the office of Dr. Ranly. The larynx was cocainized (by the drop method) and a curved steel bar was being magnetized by contact with the magnet. The first attempt failed and upon a second attempt the pin, much to our chagrin, became dislodged and disappeared.

A radiogram immediately thereafter showed the pin in a lower division of the left bronchus. The following day, assisted by Dr. Murphy and Dr. Mithoefer, I made a prolonged search for the pin by upper bronchoscopy, but it could not be found.

On October 4, 1912, Dr. Murphy and I took the patient to Pittsburg, to consult Dr. Chevalier Jackson, who considered it a very difficult case. He made a prolonged bronchoscopic search for the foreign body, but was unable to find it. A few days later he made

a second unsuccessful search for the pin. On October 12, 1912, the patient developed pneumo-thorax. Dr. Hartley Anderson thereupon removed the pin from the lung through an external operation. The pin, after its removal, was tested with a magnet, *but could not be magnetized.* The patient recovered, and in a few weeks the lung had fully expanded.

Remarks: In this case extraction with a magnet seemed a perfectly rational procedure, but I was led astray by the companion pin which the patient presented. The failure in this case was as disappointing as was the satisfaction in the first case.

EXPERIMENTS ON ANIMALS.

In all the clinical cases heretofore recorded the magnet has been applied through a tracheotomy. De Roaldes,[13] in a series of experiments on the cadaver, was unable to guide an object from the trachea through the larynx into the mouth. He suggested the use of two magnets, one to be applied over the trachea and the other to be introduced into the mouth.

In some recent experiments, assisted by Dr. Ranly, I have undertaken the direct extraction of magnetizable bodies from the trachea and bronchi of dogs, by the attraction of magnetized steel rods, *introduced through the larynx,* into the deeper air-passages.

Four dogs were used, one of these was a dead animal and three were living, anesthetized animals. (One of the latter died after three experiments had been performed.)

The procedure was as follows: A foreign body, (nail, bolt, screw or needle) was introduced through a bronchoscope into the lower trachea or into a bronchus. The bronchoscope was then removed and a steel rod was passed through the larynx into the deeper air-passages. In order to attract the foreign body, the rod was then magnetized by contact with the electro-magnet.

At different times, fifteen objects were in this manner introduced through the larynx, while one was inserted through a tracheotomy. Of the fifteen foreign bodies, six were recovered *per vias naturales* and two through a tracheotomy. Since the rods were of smaller diameter than the trachea the animals were not asphyxiated when the rods were introduced. The foreign body introduced through the trachea could not be recovered. Of the total number of objects recovered, all but one were from live animals, and of the eight objects recovered, four had been in the bronchi, and four in the trachea.

Prota[14] records some similar experiments, all of which, however, were performed through the open trachea of the animals.

From the results of his experiments as well as from my own, the conclusion may be drawn that the metallic bodies must be free, or very loosely impacted in the trachea-bronchial tract if it is to be extracted by a magnet.

Jackson's[15] article contains a similar conclusion.

In exceptional instances, in human beings, it might be possible to combine suspension laryngoscopy and magnetic attraction by means of steel rods passed through the suspension laryngoscope, corresponding to the experiments on animals recorded above.

A review of the recorded clinical cases, as well as of my own, leads to the conclusion that in exceptional instances the electro-magnet may prove of great value in the extraction of foreign bodies from the lungs. These cases would be limited to that group in which the foreign body was beyond the reach of a bronschoscope or was concealed in profuse secretions. The magnet may also attract the foreign body and thereby shorten the search when an external operation becomes necessary. In the vast majority of instances, however, the bronchoscope will remain the instrument of choice.

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22 West Seventh Street.

THE VIOLET RAY AND OZONE OF USE IN NOSE, THROAT AND EAR CONDITIONS.*

DR. KATE W. BALDWIN, Philadelphia.

So much is claimed for the violet ray and so much is said against it that I hesitate to bring its use before the members of the Academy. My excuse for so doing is that I am convinced that all who are not utilizing it for both treatment and diagnosis are neglecting a valuable aid. For diagnosis alone it is worth investigating by the specialist, the internist and the surgeon. It may help the internist and the surgeon to eliminate many supposed points of pain and to narrow to a small part of the anatomy the true focus of many widely disseminated symptoms. What is true for the surgeon and the internist is equally valuable for the nose, throat and ear specialist. It localizes pain almost to the exact point most involved. That which the patient describes as general frontal headache is localized in one or both frontal sinuses; or the sinus may be demonstrated free, and the pain traced to the exit or the supra-orbital nerves. Again, one nerve may be eliminated and the other found extremely sensitive to the rays. Usually some restricted area that is more acutely sensitive than any other is isolated.

The pain or soreness disappears with treatment from the periphery of the involved area first, and later from the actual pathological tissue involved. Having thus localized the area, the etiology —local, general, or both local and general—is more easily determined, and must be carefully searched for and, if possible, removed. Dislike of the violet ray is not frequent, but is very decided when it exists.

I do not wish to weary you with details of cases; so I will merely mention three that will indicate their general character and the scope of the treatment:

Case 1: The patient was Miss C., a teacher, who had for many years been subject to extremely severe right-temporal and frontal headaches, which were more frequent and more severe when the general system was overtaxed, and resulted in great exhaustion. The various headache remedies relieved the attacks but did not diminish their frequency or severity. Although the first use of

*Read at the Eighteenth Annual Meeting of the American Academy of Ophthalmology and Oto-Laryngology, Chattanooga, Tenn., October 28, 1913.

the violet ray quickly cured one of her most severe seizures, so great was her dislike for it that she decided that she preferred to continue to rely upon the less prompt relief obtained from drugs. During the next six or eight months I saw her occasionally but gave no violet rays. Finally Miss C. reported that not for years had she experienced so few or such mild attacks of headache as since the use of the violet ray. "As every condition," she said, "has been the same since that time as before, the improvement must be due to that!" Her dislike for the violet-ray treatment was not less, but she wished to make further trial in order to see whether possibly her headaches might become wholly a past experience. The result was that, in spite of her aversion, each application of the ray was followed by a recognized feeling of comfort. Commencing over the cervical nerves, I gradually diminished the current, reaching the especially involved area with a very mild application and then gradually increased, until the point of easy tolerance was reached. After only four treatments, Miss C. left for her summer vacation. On September 1 she left this report: "The best ever! Do not at all mind that it is time for school."

Case 2: This patient was a boy of 10 years with chronic suppurative otitis media, probably from the time of erupting his first teeth. There was a large perforation of the lower anterior segment of the drum membrane, with much and frequent foul discharge. The adenoids had been removed without improving the aural condition. No further operation on nose or throat was indicated. After carefully cleansing and disinfecting, I used ozone, as generated by the violet-ray apparatus, directly in the ear. It passed freely through the Eustachian tube into the throat. I also gave it through the mouth and nose. In a surprisingly short time the discharge stopped and the perforation closed. An attack of measles interrupted the treatment; but, much to my surprise, there was no relighting of the aural infection.

Case 3: Dr. N., a dentist, came in one evening with a very uncomfortable sore throat; temperature and much general distress. The tonsils and lateral folds were well covered with a grayish-yellow exudate, suggestive of serious infection. After cleaning the area involved, the throat electrode was thoroughly used over all the exudate, and the surface electrode down the spine, especially the cervical region. Cutting off all appointments for the next day was advised, and an early morning report requested. The morning telephone message was a surprise, in that it reported entire relief from discomfort and absence of exudate in the throat. Insisting

upon personal judgment, I found no trace of exudate and no fever Nothing further developed.

The harsh, nervous cough, with or without an enlarged lingual tonsil, is usually greatly relieved. Enlargement of the thyroid gland diminishes and distressing symptoms are removed. Even broken-down tuberculous cervical glands respond in a satisfactory manner.

I am very anxious that a free discussion follow and that favorable or unfavorable reports be given.

This paper does not include the use of the therapeutic lamp with violet screen.

1117 Spruce Street.

Pole Ligation for Hyperthyroidism. PEARSON. *Dublin Jour. of Med. Sci.*, July, 1913.

A case of severe acute hyperthyroidism is reported in which pole ligation was performed with a very successful result. In reference to the technic stress is laid on the importance of including in the ligature veins, lymphatics, and nerve filaments as well as arteries. The operation is especially suited for (1) mild and early cases which fail to respond to medical treatment, yet which do not require the more serious operation of partial thyroidectomy; (2) acute severe cases especially in the presence of emaciation of cardiac dilation. In many of these it should be employed as a preliminary to excision which may be carried out subsequently, when the patient is in better condition, with much less risk. Excision on the other hand should be performed in cases with even mild thyrotoxic symptoms if the gland is much enlarged, and it is required after a time in many cases which have been treated by ligation because in the words of Hayo, "Most of the ligated cases will relapse within from one to three years, although their condition will not be so bad as before the ligation." GUTHRIE.

SKULL OF ABORIGINES. SPECIMEN OF TEMPORAL BONE.

Dr. Thomas J. Harris, New York City.

The specimen which I take the liberty of presenting was found in the collection of skulls of the Anatomical Institute of the University of Freiburg. It is marked a "boeroc," presumably an aborigines' skull from the South Sea Islands. The rational explanation of its character is the one usually given for all these conditions, namely, an extensive cholesteatomatous disease. When I first saw the specimen I was under the impression that it was unique, but have later learned on consulting the literature that such is not the case.

Figure 1.

The specimen, which was the right temporal bone, represents two cavities originally separated by a complete bridge 1 mm. wide, which was broken in the removal. It will be noted that the mastoid process is preserved below. Above the cavity extends to the zygoma. The anterior opening shows almost complete absence of the posterior wall of the glenoid cavity. Posteriorly, one immense cavity is seen representing the entire antrum and mastoid cells and extending upward as far as the tegmen antri and the tegmen tympani, the latter of which contains a defect of 4 mm. in the vertical diameter, by 3 mm. in the horizontal. No vestige remains of the posterior wall of the canal. The inner wall shows clearly the facial canal and

the fenestrae ovale and rotunda, the promontory and the opening of the Eustachian tube. The left temporal bone, which was not removed, showed a similiar bridge 1 mm. wide. The mastoid antrum did not appear to be opened. There were two large defects in the tegmen tympani and here also the facial canal, the fenestrum rotundum and the fenestrum ovale were plainly to be seen, as well as the opening of the Eustachian tube. Both cavities are smoothly rounded out, as if with a burr.

The exact measurements are as follows: The right side, the posterior cavity 1.6 cm. vertically, 1.2 cm. horizontally, 2.2 cm. deep.

Figure 2.

The anterior cavity, 1.3 cm. vertically, 1 cm. horizontally; the depth of the two cavities in the intero-posterior diameter, 3.2 cm. The left temporal bone, the posterior cavity, 1.6 cm. vertically 1.2 cm. horizontally, 2 cm. deep. The anterior, 1.2 cm. vertically, 1.2 cm. horizontally, depth of the antero-posterior of the two cavities, 2 cm.

My thanks are due to the Director of the Anatomical Institute of the University of Freiburg for the privilege of presenting this specimen.

101 East 40th Street.

BRAIN EXPLORER AND TWO MODIFICATIONS OF ALLPORT'S SPECULUM.

DR. HAROLD GIFFORD, Omaha.

The brain explorer is meant to supply a want which I have long felt when operating for brain abscess. The uncertainty which attends the attempt to open an abscess with a knife or aspirating needle when no flow of pus follows the introduction of the instrument has led to the practice of following this by the introduction of a pair of forceps more or less in the track of the original

Figure 1. Allport-Jansen mastoid retractor with off-set branches and somewhat slightly sharpened points.

puncture in the hope of opening a wide enough passage for thick pus to escape. This procedure, while sometimes successful, is so brutal that it does not appeal to the average operator except as a last resort. The brain explorer is a pair of knives which can be introduced as one blade, as far as the operator thinks necessary,

Figure 2. Retractor for tying the jugular.

and then spread as little or as much as may be desired. If no pus follows they can be pushed in farther and the separation again tried; thus proceeding to as great a depth as may be thought justifiable, with the certainty that no abscess which has been pierced by the points will be concealed by the closing in of the tissues.

The smaller of the speculums is a slight modification of the Allport speculum as modified by Jansen; the change consisting in set-

ting the branches off a quarter of an inch from the main plane of the instrument and slightly sharpening the points of the teeth. This gives the instrument a hold which is desirable in swollen tissues.

Figure 3. Brain explorer. The figure shows the points blunter than they really are.

The other speculum is for use in tying the jugular and will, I think, commend itself to any otologists who have done this operation themselves. The instruments are made by V. Mueller and Co., 1775 Ogden Avenue, Chicago.

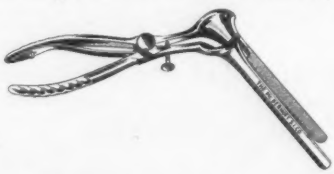
567 Brandies Building.

INSTRUMENT FOR SEPARATING THE VOCAL CORDS AND OPENING THE MOUTH OF THE ESOPHAGUS.*

DR. R. C. LYNCH, New Orleans.

This is adopted from the long nasal speculum of Killian. The blades separate 1¾ inches at the top, are nine inches long, and the screw will retain the blades in the required position.

I use it for separating the vocal cords while the patient is suspended on the Killian-Albrecht apparatus. With it I can see into the trachea without a tube, can determine the location and extent of attachment of sub-glottic and tracheal tumors, can use a mirror



for examining the under-surface of the vocal cords and the walls of the trachea, remove foreign bodies attached to the vocal cords, or floating free in the trachea.

A peanut in the trachea of a child, 14 months old, was very nicely removed this way. The instrument can be used for looking into the mouth of the esophagus and thus facilitate the location of webs, tumors, foreign bodies high up, and strictures in this region.

624 Gravier Street.

*Presented at the Eighteenth Annual Meeting of the American Academy of Ophthalmology and Oto-Laryngology, Chattanooga, Tenn., October, 1913.

LA FORCE HEMOSTAT TONSILLECTOME.*

Dr. B. D. La Force, Ottumwa, Iowa.

At a meeting of the Academy of Ophthalomology and Oto-Laryngology I made a preliminary report of an instrument devised for the bloodless enucleation of the faucial tonsil back of its capsule.

Before the instrument was presented and the preliminary report made, Dr. Joseph Beck of Chicago, who has helped very materially to work out the technic of the operation, and I applied the hemostat and ligature to the faucial tonsil back of the capsule and a complete enucleation was done without the loss of a single drop of blood.

The operation of applying the hemostat back of the capsule, crushing the tissues for seven minutes, and enucleating the tonsil in the adult as well as in children was done with the loss of only enough blood to tinge the mucus.

From my experience with the instrument before the report was made and since that time, and from my observation of the instrument in the hands of several noted laryngologists, including the very skillful preliminary work done by Dr. Beck, I feel justified in making the statement that I am convinced this instrument will be of decided usefulness.

The instrument is provided with a hemostat which has two crushing-surfaces something similar to the blades of an artery forceps, which are about two and one-half mm. broad, a ligature carrier, a cutting-blade and an opening made almost square, in which the tonsil is engaged.

The tonsil is engaged into the fenestra of the instrument after the method of Dr. Sluder, the crushing-blade forced down back of the tonsil and all of the tissues immediately in apposition to the tonsil held firmly between the two crushing surfaces by screwing down the wheel attached to the crusher. The hemostat is allowed to remain in place from five to ten minutes; the time should be determined accurately by the watch.

If the ligation is to be done, the ligature is placed in the groove over the end of the ligature-carrier with the ligature held firmly against the end of the carrier by engaging the ligature, after being tightly drawn, into a small spring catch. The ligature-carrier is then pushed forward through the pedicle produced by the hemostat, the

*Presented at the Meeting of the American Academy of Ophthalmology and Oto-Laryngology, Chattanooga, Tenn., October, 1913.

ligature released from the spring catch and the ligature-carrier brought back leaving the loop on the farther side of the pedicle. The loop is then caught with forceps and brought around the handle-end of the instrument, one end of the ligature passed into the loop and the ligation of the pedicle completed by tying it either with or without a ligature knot tier made for this purpose..

The ligation has also been accomplished by looping a number one snare wire over the ligature-carrier and running the loop of wire through the pedicle. If it is to be tied in three sections, the ligature carrier is displaced as far as it will go upward, and having penetrated the pedicle in this location, the carrier is withdrawn,

leaving the wire loop in place where it is to be grasped with forceps, the loop threaded with a ligature thirty-six inches long and brought through the pedicle from behind forward by retracting the wires. The ligature is then cut in such a way that the upper third of the pedicle may be tied.

The part of the ligature which is left through the pedicle we will call ligature number two, which we will say has ends A and B. We next put the ligature carrier as far down as it will go, put wire-loop over it as before, pierce the pedicle and put the end of the ligature that was left after ligature number one was made, taking the end that was through the pedicle we have called B, and pass it into the loop of wire. Then retract the wire, cut the loop and tie

the middle third of pedicle and then tie the lower third of pedicle by tying the other two ends.

At this time one end of ligature number one is tied to one of the ends of ligature number two, and the other end of ligature number two tied to one of the ends of ligature number three, so that there will be no gaping of the stump when the tonsil is cut off and hemostat released.

After the hemostat has been applied for from five to ten minutes or after the ligation has been accomplished, the smaller wheel is turned to the right and the tonsil cut off, being held with forceps and removed. The larger wheel is then turned to the right, the catch on the hemostat released so that the instrument may be removed from the throat.

Congenital Occlusions of the Esophagus and Lesser Bowel. EDINGTON. *Glasgow Med. Jour.*, July, 1913.

Two specimens are described which illustrate a malformation of the tracheo-esophageal septum. In both of them the upper segment of the esophagus ended as a blind sac attached to the trachea below the level of the larynx. A free communication existed between the lower segment and the trachea close above the bifurcation of the latter, and the upper and lower segments were not united by connecting bands. Both fetuses presented other malformations, one of them, transposition of the thoracic and abdominal viscera, septal occlusion of the duodenum, and atresia ant; the other, various abnormalities of the recto-vesical region.

Reference to the literature of the subject shows that both specimens were examples of the prevailing type of esophageal malformation. Discussing the etiology the author regards it as probable that the malformation is due to an abnormal relationship of the tracheo-esophageal ridges (which separate trachea-esophagus) to the posterior wall of the esophagus, the ridges becoming fused with the latter over a greater or lesser area. GUTHRIE.

NEW YORK ACADEMY OF MEDICINE.*

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Report of Retiring Secretary.

Mr Chairman and Members of the Section: Your Secretary has the honor to present the following report for the year, 1913:

STATISTICAL:

Total enrollment	167
Number of meetings	9
Average attendance	65
Number of papers read	14
Number of patients presented	35
Number of specimens exhibited	5
Number of instruments demonstrated	5
Number of cases reported	11
Number of reports other than cases	4
Total number joining in discussions	228

The year which is officially ended with this meeting has been noteworthy in several respects.

There have been but two resignations and one death, that of Charles Huntoon Knight, M. D.

While we have added sixteen fellows to our enrollment, our total, when compared with that of last year, represents a loss of two members. Aside from the resignations and death above noted, this apparent discrepancy is accounted for by the removal of errors which had crept into permanency, year after year, under the old system of enrollment.

Correspondence with other Secretaries of Sections brought about united action, resulting in a change. Secretaries are now notified, by mail, of additions, affecting the enrollment of any particular section.

The average attendance has been unusually good and the interest in the scientific discussions sustained and satisfactory. During the year, the following guests have also addressed us, from time to time: Charles E. White, President New England Conservatory of Music; Dr. Harris Taylor, Principal of the New York Institute for the Improved Instruction of Deaf Mutes; Miss Helen Keller (5 min.); Dr. Otto Joachim, New Orleans; Dr. Chevalier Jackson,

*Published in The Laryngoscope by Order of the Section.

Pittsburgh; Dr. E. B. Gleason, Dr. H. M. Goddard, Dr. Ross Skillern and Dr. Geo. H. Coates, all of Philadelphia; Dr. Clinton Wagner, founder of the Society, retired and now resident in London, England; Dr. Bert Munday, New York; Dr. Cyril Barnert, New York; Dr. Henry L. Swain, New Haven; Dr. James C. Callison, New York.

Our position or opinion has been sought on two matters of public interest and importance: (a) the pending legislation for the further restriction of the possession, use and sale of cocain and eucain and their salts. The so-called "Walker Bill" or Assembly Bill, 692, as it was then designated. (b) Our attitude toward those of our public school children who become afflicted with hypertrophied tonsils and adenoids, and the requisite provisions which dispensaries should maintain for the proper treatment and care of such applicants.

In respect to each and both of these problems, this Society, acting as such or through its officers or special committees, took a dignified and compelling position. Under the provisions of "The Walker Bill," the opponents of the unlawful traffic in these drugs, lead by Judge Swan and Asst. Dist. Att. Delahanty, sought to enact a drastic and far-reaching law, entirely oblivious to our rights and time-honored privileges and privacy. Against such legislation we protested with insistence and the whole force of our established position, yet with a deep and abiding sense of our duty to the public in the presence of this menace to the home and the individual. It is gratifying to state, that our suggestions and recommendations received the serious attention which they deserved and have since become part of the law of the state.

In regard to the second question, a reply was drawn up and forwarded to the Associated Out-Patient Clinics of the City of New York, having its basis on the written replies to the circular letter, embodying these queries, issued to members by your Secretary. This letter created a deep impression upon the Executive Committee of that Association, and copies were made and distributed to each institution in the membership, for its further information and future guidance.

We have signalized the closing months of the year with two events of cardinal, intrinsic importance: On November 6, we arranged and successfully carried out our annual meeting before this Academy. Again, on November 25, we made history, unique in the life of this Academy and the laryngological world, when we celebrated the Fortieth Anniversary of the foundation of this Sec-

tion, originally the New York Laryngological Society, with fitting and impressive exercises. Since the event your Secretary has been the recipient of many messages of graceful acknowledgement of the invitation, addressed by us to laryngologists of recognized standing and representative ability in this country and many distant lands, all of which have been very appreciative of our position, as the oldest laryngological society in these or foreign parts. Doubtless the occasion would have passed without recognition, had it not been for the enthusiasm and untiring efforts of our distinguished member, David Bryson Delavan, who stimulated and entertained us with his comprehensive and historical address and presented this Section with the handsome bronze tablet, commemorative of the event, which now occupies a place on the walls of this Academy. The occasion was made doubly interesting by the presence of the founder, Clinton Wagner, M. D., who delivered a masterly address, outlining the early life of this Society.

The retrospect of our year, 1913, therefore, bears ample witness to our industry and activity as an organization.

Respectfully submitted,

CORNELIUS DOREMUS VAN WAGENEN, M. D., Secretary.

William Wesley Carter, M. D., Chairman

Suspension Laryngoscopy. W. FREUDENTHAL, *Med. Rec.*, Feb. 22, 1913.

The author gives his personal experiences with this modern method of direct inspection of the larynx and considers it a valuable contribution to our laryngeal technic. There are several advantages connected with the method. (1) We see parts which could not be seen otherwise. (2) Other parts, as neoplasms, assume a different aspect. (3) It is easier for the patient and for the physician to operate in this way. By this technic the anterior wall of the larynx can readily be seen and the diseased area treated. Ulcerations can be more thoroughly curetted than before. The paper is illustrated and the histories of the cases are detailed.

LEDERMAN.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

v *Commemoration exercises and presentation of tablets, November 25, 1913.*

WILLIAM W. CARTER, CHAIRMAN.

Introduction of Dr. Wagner. DR. WILLIAM WESLEY CARTER.

It affords me great pleasure to congratulate you on this auspicious occasion, and to welcome you to the Academy. It is with a feeling of keen appreciation mingled with a sense of my own unworthiness that I assume the duties of Chairman at this, the Fortieth Anniversary of the oldest Laryngological Society in the world. This occasion marks an epoch in laryngology; it has no precedent in the history of our specialty. It belongs to us, therefore, with strong propriety to celebrate this day.

We meet, not of necessity, nor for the purpose of applauding our own work, but we meet that we may pay a well deserved tribute to those pioneers through whose earnest, courageous efforts laryngology has been raised from its cradle of unpopularity to its present enviable position of distinction and efficiency.

The work of a pioneer is hard, and must be accomplished in a spirit of unselfishness, for he is wise enough to realize that the span of one life is too short to bring his enterprise to its mature and perfect issue; and he knows full well that the sweetest fruits of his labors are to be enjoyed by those who come after him.

Of that great company of pioneers, a distinguished representative is with us to-night, Dr. Clinton Wagner. Dr. Wagner graduated in medicine about the time that the Civil war began. He became a member of the Medical Corps of the U. S. Army. The unparalleled opportunities afforded by this association gave him a position of first rank among the surgeons of that day.

Following the war he went abroad and devoted himself to the study of laryngology. While in Vienna he made the acquaintance of several young Americans who were also interested in the new specialty. When he returned to America, he established a clinic in New York City, the success of which was so great that several public-spirited men furnished the means for providing a home for it. This was the beginning of the Metropolitan Throat Hospital, and through the work in this institution he was inspired to organize the New York Laryngological Society. This was in 1873, and it is the great event which we celebrate to-night, and this is the man to whom we are indebted for launching this Society upon its career of usefulness. Upon him all of our felicitations are focussed.

I rejoice to make way for Dr. Clinton Wagner, founder of the New York Laryngological Society.

ADDRESS. DR. CLINTON WAGNER.

This celebration of the fortieth anniversary of the founding of the New York Laryngological Society was conceived by my friend, Dr. Delavan, your former chairman, who for many years has been a most indefatigable worker in developing and uplifting the specialty of laryngology and rhinology; now he has rescued from oblivion the almost forgotten New York Laryngological Society and has placed its name on record in enduring bronze. I have been requested, as one of the early laryngologists in New York to speak of the work accomplished by them.

Forty years ago, the number of men in this city who were familiar with the then modern methods of examining the throat and nose could be easily counted. Most of us had received practical or clinical instruction in London, Berlin, Vienna, or Paris, but, notwithstanding, our knowledge of the diseases of the nose and throat was very limited. We could be compared, perhaps, to young men fresh from the colleges and hospitals, with minds stored with the ideas of other men in the matter of the treatment of diseases but with no fixed views, such as one acquires from practical and personal experience when called upon to think and act for one's self. In other words, our knowledge of the throat and nose had taken no concrete form, for we had no blazed trail to follow through the intricacies of this department of medical science.

We met one evening at my house, in October, 1873, and decided to organize a society, not only for mutual improvement and the advancement and enlargement of our limited knowledge of the diseases of the throat and nose, but we had also in view establishing on a solid footing with the medical profession at large the specialty of laryngology and rhinology in this country, for the reason that many of the physicians of the time looked askance upon all specialties. The general practitioners in medicine and surgery were jealous of interlopers; the probang and gargles were their sole reliance for all cases of sore throat. The nose was ignored.

The aurist, who preceded us, had had his troubles in obtaining recognition; in fact the physician who undertook to cure chronic deafness was regarded as a charlatan. A surgeon in one of London's largest and best known hospitals, but a short time prior to the date to which I have referred, coming to the subject of the ear during his course of lectures, dismissed it curtly by asserting that there were but two classes of ear trouble, or deafness, those that could be cured with the syringe and those that could not, and for the latter nothing could be done.

All of us who met on that evening in October were connected with clinics for the diseases of the throat. At subsequent meetings we sent cases of special or unusual interest, which were examined and discussed by those present, all of whom were young, hard-working, ambitious, and determined to make successful careers during the coming years in this the largest city in America and destined to become the largest city in the world. Not all of them continued to follow the specialty; those that did, succeeded to the full measure of their expectations and always stood first among laryngologists; they were George Morewood Lefferts, Francke Huntington Bosworth, Morris J. Asch, Woolsey Johnson, and Norman D. Bridge. The two latter died young. Others,

such as Charles McBurney, Robert Fulton Wier, Matthew D. Mann, and Francis P. Kinnicutt sought broader fields, but all became well known.

Many young men came to our clinics for instruction. I had patients from various parts of this country and Canada, but from the Potomac river to the Rio Grande there was absolutely no one to whom I could refer patients for further treatment at their home-towns or cities. However, the specialty became popular, not only with the laity but also with the profession which at first had given it the cold shoulder, when it was learned many ailments of the throat could be relieved by physicians familiar with the more modern methods of treatment. As an evidence of the rapid growth and popularity of the specialty,—within less than five years after the organization of this Society it was deemed desirable to have a national society, and the American Laryngological Society was organized at Buffalo, with a membership at that time limited to fifty but, later, increased. In the nineties, a sister society was organized, the American Laryngological, Rhinological and Otological, with a large membership roll.

During the two years that I spent abroad acquiring a knowledge of the specialty the treatment of nasal troubles was practically ignored; of course, polypi, foreign bodies, and tumors were recognized and removed, but there was no systematic instruction given for nasal troubles, as there was for the larynx and pharynx. The prevalence of chronic rhinitis, or so-called nasal catarrh, stimulated research into the hidden labyrinths of the nose, and in this branch of the specialty we went rapidly ahead of our confreres on the other side of the Atlantic.

Dr. Horace Green, whom the profession in our country to-day appreciates and honors, was the first throat specialist in America, and the *first in the world* to demonstrate that an instrument could be introduced into the larynx through the rima glottidis into the trachea, and as far as the bifurcation of the bronchi. For the local treatment of the larynx he used a sponge probang charged with a strong solution of nitrate of silver, and by means of a catheter introduced solutions into the bronchi for the relief or cure of certain pathological conditions. His work on "Polypi of the larynx and edema of the glottis," showed that he was far in advance of the age in which he lived; he not only diagnosticated the presence of laryngeal growths, but successfully relieved them by means of laryngotracheotomy. If the laryngoscope had not been discovered as an aid to diagnosis there would nevertheless be to-day throat specialists following the methods and teachings of Dr. Horace Green.

I have endeavored thus briefly to set forth the good work accomplished by the early laryngologists in establishing the first laryngological society in the world; "they builded better than they knew," and as a tree is known by its fruit, so will the work of these pioneers be appreciated and understood when we look upon the scientific work now being done by the Section on Laryngology and Rhinology of the New York Academy of Medicine.

DISCUSSION.

DR. CARTER: After listening to this masterly review of our early history I feel quite sure that we can appreciate more fully the meaning of Lowell's words, when he said "The past is a good nurse."

Certainly Dr. Wagner's remarks should make us realize that the main object after all is the promotion of the science and art of our specialty.

Introduction of Dr. Delavan. DR. CARTER.

The next speaker of the evening is so well known to this audience that a formal introduction is unnecessary to insure him an enthusiastic greeting.

But aside from this feeling of personal satisfaction at having him with us tonight, we are filled with delightful anticipations awakened by his subject, inspired as it is by the highest of professional ideals; the desire to keep alive in us an interest in the great men of the past, to give to the Society the credit that it deserves, and to perpetuate in lasting bronze its noble origin. May we always have such a friend and know his value.

Larngology in New York. DR. D. BRYSON DELAVAN.

We have met to commemorate the fortieth anniversary of the New York Laryngological Society, the first society of laryngology ever established in this country or in the world. We are also accorded the great privilege of offering our tribute of honor and appreciation to its modest but far-sighted and public-spirited founder, Dr. Clinton Wagner, the guest of the evening, and to those associated with him in the Society's primal organization. It is well that we, as men loyal to the medical profession of the country and justly proud of the city in which we live, should fearlessly claim for New York the credit for intellectual and scientific eminence which through many generations its physicians have so richly deserved, and that we should at this time recount the story of what New York has done for laryngology, and study the exploits of the men who have contributed in so many wonderful ways to its fame.

Long before the invention of the laryngoscope it was in the City of New York that attention was first seriously turned to the special study of diseases of the throat; here that the most important principle connected with the physiology of the throat was first discovered; here that the possibilities of the topical treatment of the larynx were first demonstrated, developed, and perfected; here that intra-laryngeal surgery had its birth; the first public throat clinic in America,—perhaps in the world,—was established here; here the causes of nasal obstruction were first understood and successfully treated, and the way thus opened for the recognition and treatment of sinus disease; here that Koller, abandoning Europe, taught the value of local anesthesia and gave us cocain; here the first post-graduate schools were established, important features of which were well organized and equipped departments for instruction in laryngology; here it was that French perfected photography of the larynx, here Edison invented the phonograph, and here, again, in the city of New York, was founded the first Society of Laryngology in the world.

The founding of the society was the culmination of more than a century of earnest groping for the light; and while the progress was tedious and slow there was a constant advancement of which this was the successful, the triumphant issue. It was not until the latter part of the first half of the nineteenth century that the subject began to receive con-

siderable and increasing attention. In 1846, Horace Green presented his "Treatise on bronchitis," the result of work begun by him in 1838.

In this extraordinary thesis he first described what he called "Catheterization of the larynx." Under this unpretending title he announced the great discovery that a foreign body could be introduced into the larynx and even below the vocal cords without producing suffocation. For this all-important discovery credit is beyond question due to Green. The worth of his suggestion as to the value of local applications to the larynx in general and, in particular, of nitrate of silver is proved by the fact that in the Vienna clinics and elsewhere silver was the main reliance for more than a generation, and as added confirmation is the fact that argyrol is to-day one of our most popular remedies. Green's publications covered a much wider field than we have alluded to and were destined to produce a revolution in the treatment of laryngeal disease and to open the way for new methods, both medical and surgical, which have constantly increased in number and value from that time to the present day.

To the name of Horace Green must be added that of another citizen of New York, Dr. Gurdon Buck, who, in 1848, published a series of classical papers upon "Edema of the larynx," in which he taught the diagnosis of these cases by palpation, and devised a special knife which, safely guarded by the forefinger of the examiner, could be passed into the larynx and applied with successful effect.

In 1858, the dawn ushered in by Horace Green was made brilliant daylight by Manuel Garcia's invention of the laryngoscope and the way was prepared for the establishing of the specialty upon a definite and firm basis. Here, again, New York took the lead, at least in this hemisphere, for it was the distinguished Dr. Krackowitzer, surgeon to the New York Hospital, who first in this country procured a laryngoscope from Vienna and with it, in 1858, demonstrated the vocal cords.

Following the announcement of Garcia's invention and Czermak and Tuerck's appreciation of it, a clinic was established in Vienna by Tuerck to which many students resorted for instruction in the new art. This was followed by other clinics in Vienna and in Paris, and later in London and Berlin, the most noted of which were under the direction of Tobold of Berlin, von Schroetter of Vienna, Mackenzie of London, and Fauvel and Krishaber of Paris. The progressive young Americans were not slow to take advantages of these opportunities, for in that day, contrary to what is now the case, if laryngology was to be learned at all it was necessary to go abroad to study it. Among those early students were our founders.

But the success of their effort in establishing this Society was not confined to New York. Five years after the organization of the New York Society, able laryngologists were to be found in most of the principal cities of the Northern States. So great was the increase that, following Dr. Wagner's original intention in 1878, the American Laryngological Association was founded. Meanwhile, the British Laryngological Association was founded by Sir Morell Mackenzie in 1888, ten years after the American Laryngological Association, and not until fifteen years after the Laryngological Society of New York. The national associations of France

and Belgium were begun in 1890, that of Italy in 1892, and of Holland, in 1893,—Scandinavia, Russia, Germany, Austria, and Spain not being at that time represented.

The men who entered the department of laryngology in those early days were of the highest type. Not a few of them had seen service in the Civil war, either as members of the medical corps or in some other branch of the service. Chief among them was Dr. Wagner, whose war-record is an eloquent tribute to the courage and efficiency of the man. Entering the medical corps in 1860, he served with distinction until the close of the conflict. He established numerous hospitals, among them, the first floating hospital on western waters. He was Surgeon in Chief of the Regular (or Second) Division of the Fifth Corps of the Army of the Potomac. At the battle of Gettysburg, his hospital was the one nearest to the firing line and, in the desperate attempt of the Confederates to retake Little Round Top, was in the midst of such a hot fire of shot and shell that it became necessary to abandon it for a less exposed position. As the outgrowth of his opportunities during those stirring years Dr. Wagner had a rich surgical experience before he was 25.

Dr. Asch also saw service as an army surgeon. Dr. Rufus Pratt Lincoln enlisted when a Junior at Amherst College, entering as Second Lieutenant and rising rapidly to the colonelcy of the Thirty-Seventh Regiment Massachusetts Volunteers, and having been severely wounded in several important battles was mustered out near the close of the war with the rank of Brevet Brigadier General.

I call attention to this phase of the life of the time because by reason of it extraordinary opportunities were given for the development of strong traits of character and, in the medical service, for unlimited opportunity in medical as well as surgical work. The men who entered laryngology, moreover, were generally of good position and excellent education, possessed of fine intelligence, and able to afford the means for securing the best special training. They realized the value of the new specialty as a field for scientific investigation and for practical work. Of highly trained power of observation, untiring clinicians, and *diligent readers*, they relied upon the experience gained by such means rather than upon the not always infallible findings of the laboratory. They were also enthusiastic teachers. No wonder that their pupils were inspired with a little of the leaven which they so freely gave.

As before stated, rhinology was unknown in the early seventies. Attempts were made to treat naso-pharyngeal catarrh, but beyond that and the surgical treatment of polyps and growths, and the control of epistaxis, little was done. Nasal obstruction was not understood, and the causes leading to it were practically unrecognized, although Catlin in a very interesting work had called attention to "mouth-breathing" in 1853, and Clinton Wagner had presented an admirable thesis on the same subject, as related to medicine, in 1881. Nasal affections in general were grouped under the head of "nasal catarrh, or chronic rhinitis." The surgery of the septum and of the turbinated bodies did not exist. The nasal sinuses, except anatomically, were unknown.

Dr. William Chapman Jarvis, a member of the New York Society, was the first who recognized and directed attention to the importance of nasal obstruction due to undue swelling, or to chronic hypertrophy, of the nasal bodies, and he devised that most ingenious of all instruments for correcting the difficulty, the so-called Jarvis snare. Bosworth recognized the part played in nasal obstruction by nasal spurs, and was the first to advocate their removal by means of the saw. Another member of the New York Society, James H. Goodwillie, substituted for Bosworth's saw the dental engine for the carrying of trephines and burrs; and still another member, Asch, recognized the inadequacy of the efforts made by Adams and others to repair deficiencies of the nasal septum and gave us the first practical method for their relief; this method, with its modifications, still holds a position of much usefulness, in spite of newer and less conservative measures.

Dr. Louis Sass made many contributions to the armamentarium of our specialty, notably his modification of the spray atomizer, which superbang and revolutionized the method of making applications to the throat.

Finally, we have within New York State, Dr. John O. Roe, whose wonderful originality, ingenuity and technical skill in repairing nasal deformities in general have caused him to outrank all others, either in this seded the use of the laryngeal brush, as the brush had superseded the procountry or abroad. Lincoln also did notable nasal work, especially in the treatment of naso-pharyngeal fibroma. He was the first president of the new section after the merging of the New York Laryngological Society with the New York Academy of Medicine.

One of the most interesting inventions that laryngology has produced was made by our distinguished colleague from Brooklyn, Dr. Thomas Rushmore French. Lennox Browne of London had succeeded in photographing by time-exposure the larynx of a singer who could demonstrate his own remarkably tolerant throat. Dr. French devised a special camera by means of which any larynx or upper pharynx that could be demonstrated at all could be photographed by an instantaneous process. Thus a new and effective method was provided for the study of the upper air passages, and many new facts were developed upon the subject of the physiology of the parts and of the production of the voice. Indeed, with the advent of French's camera and Edison's phonograph, New York placed the study of voice production for the first time upon a genuinely scientific basis. French has also devised an adjustable table for securing the upright position of the patient in the removal of adenoids and other operations upon the throat and head. This chair, which has been perfected within the last year, is the most admirable device of its kind that has yet been invented.

Joseph J. O'Dwyer, of New York, a man of lofty character and far-seeing intelligence, devised the method of intubation for the relief of laryngeal obstruction in diphtheria, one of the most remarkable exploits in the history of surgery, and which was recognized by him as being applicable in many other and widely different conditions of laryngeal disease and injury. In addition to diphtheria, he applied it to obstruction of the larynx due to acute diseases, to injuries and lacerations of the soft parts,

and to fractures of the laryngeal cartilages. He also employed it with success in the treatment of cicatricial contractures of the larynx, and his methods in this class of laryngeal deformity, elaborated by the modifications of Dr. John Rogers, of New York, have proved far superior to any that preceded them or to those of European device which have been offered to us of late years.

In the literature of laryngology, New York has always occupied a prominent place. Following the introduction of the laryngoscope, a number of works appeared in Europe which were of greater or less value. It remained for three English-speaking authors to present complete treatises upon the subject of laryngology and rhinology. These were J. Solis-Cohen of Philadelphia, Sir Morell Mackenzie of London, and Francke H. Bosworth of New York. These thoroughly comprehensive works exerted a final influence in the establishing of the specialty throughout the world, that has never been equalled. Among the other writers of the day, Beverley Robinson, Elsberg, Wagner and Lefferts were eminent. All of the leading men of the time were doing excellent original work and freely recording their results. What they accomplished would have been worthy of all credit had it ended with them. But through us who came under its influence and through those who in turn have been our pupils, we may hope that it will live and flourish for many generations to come. A valuable contribution is Dr. Elsberg's "Bibliography of laryngology in the United States," dating from the earliest records to 1875. In 1875 Dr. Lefferts began to publish monthly a complete report of the current laryngological literature of the world. This was carried on by him for a number of years, and later was taken up without interruption by the "Index Medicus," where it is still continued. Of the total amount of laryngological literature of the world, the United States contributes 25 per cent, and of this New York's share is large and of superior excellence.

Of teachers, New York has produced and is still producing a splendid array, many of whom have attained the highest distinction, both in the departments of graduate and of undergraduate instruction. Dr. Wagner established the Metropolitan Throat Hospital and made it a model institution, which soon became famous among those desiring advanced instruction. Many of his pupils were destined to advance to positions of eminence, as such names as Desvenine, of Havana, Lowman, of Cleveland, and Simpson, of New York, will testify.

According to the statements of the late Dr. Elsberg, he himself was the first to lecture on laryngology in the United States. He began in New York City in 1861, and in 1863 established a laryngological clinic at the University Medical College. Dr. Elsberg claimed that this was the first public clinic in America and perhaps in the world. The present year (1913) marks its fiftieth anniversary and finds in New York City alone nearly sixty clinics for the treatment of diseases of the throat.

In the history of the Society, the fine altruism of medicine at its best has been splendidly shown. The great discoveries were not hoarded for the purpose of personal gain but were freely and enthusiastically given to the profession and to the world, with the freest liberality and the most broad-minded and philanthropic spirit. The idea that salvarsan could be patented had not occurred to their unsophisticated minds.

The history of the Society since it became the Section on Laryngology of the Academy of Medicine, itself the first and best institution of its kind in the world, is too recent to admit my bringing it before you tonight. Suffice it to say that it has thus far well sustained its traditions. Its present is most satisfactory and the promise of the future was never more bright.

It is my strong and earnest desire to excite and foster a lively interest in the history of our specialty in this country. That a knowledge of what has been done in the past by others may at any time be productive of most valuable results to ourselves has been frequently shown. Thus, the work of Professor Langley and of the Wrights in the invention of a flying machine, although apparently a failure, was turned to brilliant success by the introduction of the motor engine. A given work of the past may have fallen short of success simply for the lack of some element or detail which later years have supplied. This idea has been beautifully illustrated by the evolution of the bronchoscope. We of New York may claim no inconsiderable share of the credit for this wonderful invention, as will be seen when we remember the principles upon which it depends. These are, the tolerance of the larynx to the presence of a foreign body, the insertion into it of a tube capable of dilating it to its fullest extent, and the introduction through this tube and into the deeper parts of the air passages of a powerful light. The tolerance of the larynx to the passage of a foreign body was first definitely established by Horace Green of New York; O'Dwyer of New York demonstrated that the larynx would retain a dilator for an indefinite length of time. He himself also devised a tube for the express purpose of facilitating the expulsion of foreign bodies from the trachea; thus propounding the grand fundamental idea of the instrument. Acting upon this suggestion, Coolidge of Boston lengthened the O'Dwyer tube and illuminated the trachea through it with a strong reflected light. Thomas Edison of New York had invented the incandescent electric lamp, and this had been modified in the form of lamps capable of being used in the exploration of various cavities of the body. To adopt this principle of examination to the method of Coolidge and of Mosher, also of Boston, was comparatively simple, and when Kirstein and Killian had exhausted their ingenuity Chevalier Jackson, another American, set his brilliant mind upon the matter and gave to the world the perfected bronchoscope.

Again, the fact that an invention or an idea is old is no proof that it is necessarily inferior to something more recent. On the contrary, many an old method is superior to the ones which have taken its place, and its abandonment has been a step backward and a distinct loss. There are always those who will say: "Of what use is a knowledge of the past? Why should I waste time upon it when the present holds out so much to me and the future is beyond?" No thinking man can satisfy his mind with this sentiment, as the history of the development of the bronchoscope proves. We have no way of judging of the future, or, indeed, of truthfully understanding the present but by the past. And, knowing the past and guiding ourselves by it, how many successes might we emulate, how many errors avoid? History instructs and warns. Tradition, the

outgrowth of history, dignifies; while, fostered by tradition, sentiment stimulates us to action and inspires us to high aims.

One of the chief objects of this meeting is to arouse in the members of the Society, present and to come, a lively interest in the work of the past. To that end we have tried to give not only the record of its origin and its early career, but to place in the permanent keeping of a strong and enduring institution certain definite reminders of the past of laryngology in America and in New York. These things might have been deposited elsewhere, but there is no city where they so rightfully belong as in New York, and no institution likely to better utilize and appreciate them than the Academy of Medicine.

This tablet, which I have taken great satisfaction in preparing for you, has been accepted by the Trustees of the Academy and approved by the members of the Section on Laryngology in regular meeting. I place it in your safe-keeping with full confidence that it will fulfill its intended mission. May it arouse in us and in those who shall come after us a desire for full and thorough knowledge in all that pertains to our chosen field of professional work; may it add to our enthusiasm and respect for this great metropolis of which we are citizens; may it stimulate a just appreciation of American medicine and a high ambition to forever keep it by superior ability, by superior energy, and, far above all, by superior integrity, in the forefront of the progress of the world.

Acceptance of Bronze Tablet and Memorabilia. DR. WILLIAM WESLEY CARTER.

DR. DELAVAN: In presenting this artistic bronze tablet commemorating the fortieth anniversary of the Laryngological Section of the Academy of Medicine, you record to posterity the distinction of its birth; and in donating these valuable memorabilia bearing upon its early history, and these early models of instruments, some of which we find so useful to-day, and thus showing the evolution of our present armamentarium, you have established a shrine to which its members can ever look for inspiration.

In accepting these historic emblems the Section recognizes with grateful appreciation your professional pride in its welfare, and it pledges itself to maintain the high standard upon which the original society was founded.

Organized as it was in the very infancy of laryngology in this country this Section has exerted a distinct influence upon our specialty, and has contributed its full share to its unparalleled growth. It is well, therefore, for us, who have come upon the arena after the first great battles have been fought and won by our worthy forbears, to know whence came the enthusiasm that has accomplished these results.

Among all the specialties not one has advanced with more rapid strides; for only a few years ago laryngology received only a modicum of respect and its devotees were almost ostracised by the general profession. But all this is changed, and it is now recognized as a calling well worthy of the best efforts of the most skillful men in the profession.

Laryngology is a child of necessity, and like all such offsprings it is endowed with those sturdy characteristics especially designed for overcoming difficulties. But the position of distinction that our specialty now occupies is due, not to any fortuitous circumstances, but to the character of the men who have embraced it. So let us not fail, while utilizing the gains of science, to appreciate the dignity and worth of those through whom they were obtained.

At no time in the history of laryngology have there been so many able men engaged in devising new methods and in perfecting the old; to name one would necessitate the naming of dozens; and to even mention the new and efficient procedures for relieving the various abnormal conditions that arise within our field of effort would require an extra allowance of time. I may mention only one, the bronchoscope; this instrument has opened up a new field to the laryngologist, the extent of which with its wonderful possibilities is only just beginning to be appreciated. The knowledge of this instrument should be spread throughout the length and breadth of the land, so that every layman may know that when a foreign body becomes lodged in the air passages it may be removed under the direct guidance of the eye by one skilled in its use. This knowledge would stimulate the parent to act quickly should this emergency arise, and I believe that many children would be saved from death by suffocation, broncho-pneumonia and abscess of the lung.

Our Section has not only followed the great advances made in our science but it has contributed to it largely. Indeed there are men within my hearing tonight whose contributions to the science of our specialty have been admired, not only in our own country but in foreign parts as well, and their works claim a place of distinction in the literature of every country in the world. There are men among us who have drunk deep of the astral wines, and who can see, engraved upon the very stars themselves, the great future of our specialty.

It is indeed a fitting tribute to this the oldest laryngological society in the world, that this beautiful bronze tablet shall occupy an appropriate place on the walls of the Academy, where it will preserve in perpetuity the distinction of its birth.

DISCUSSION.

DR. GLEITSMANN said that he had occasion about seven years ago to look up the early history of laryngology in the United States, at the occurrence of the seventieth birthday of the late Leopold Schroetter, whose previous assistant requested his former pupils to contribute articles to a "Festschrift" to be dedicated to him.

Schroetter at that time was not only an excellent and popular teacher, drawing physicians from many countries to his clinic but was also a very convivial fellow, who joined his students in the evening in the favorite medical restaurant, the Riedhof, which was still in existence at a visit to Vienna in 1909.

The development of laryngology in the United States has been so fully described by Dr. Delavan that very little can be added, while in Schroetter's "Festschrift," 1907, it was stated that in twelve colleges no laryngology was taught, now all have teachers for our specialty.

As Dr. Delavan stated, Dr. Elsberg established (1863) the first laryngological clinic at the University Medical College. The College of Physicians and Surgeons opened, at Dr. Leffert's request, a laryngological clinic in 1875, which soon became well and favorably known by the thorough teaching and the practical clinical work of the assistants. To this clinic Leffert devoted all his energy and he kept complete memoranda of its work till he resigned. He gave the speaker the privilege to inspect them, and he prefaced and dedicated them with a tribute to the interest and help he had derived in his work, viz., to his wife.

Regular Meeting, December 17, 1913.

Hydrorrhea Nasalis: Cured. DR. JOHN GUTTMAN.

The patient was sick in April, 1910. One morning on getting up she had a copious, clear, watery discharge from the nose. This continued for a day and night, and at night she could not sleep for she had to bend forward and put towels under her nose—if she lay on her back the discharge would run down the throat and choke her. This continued for six weeks and then suddenly stopped. Then she had another attack which lasted for a week or two. She went to all sorts of dispensaries and to various doctors, but the attacks continued off and on for three years, with intervals of a few weeks or months. She was a hair dresser by vocation, but could not follow her occupation because the discharge would fall upon the hair of her customers. In April, 1911, she went for six weeks to a large Eye, Ear, and Throat Hospital in the city and was examined very thoroughly; her blood was examined, and an x-ray picture was taken, and then as she expressed it, they suggested "to operate on her spinal column." This she refused, and finally came to Dr. Guttman, who had the discharge examined at the Neurological Institute. They reported that the discharge was nasal, not spinal fluid. Dr. Guttman then tried various medications without any effect. He then removed the middle turbinate body on the healthy side. The discharge came from the left side, but the right turbinate was removed without any effect. A week later, the left turbinate was removed and immediately the discharge ceased and has not since recurred. The patient feels as well as she ever did.

The condition seems to be a sort of vaso-motor disturbance belonging to the same class as hay-fever and rhinitis nervosa. It is a reflex irritation. The point of irritation lies probably in the nose, thence affecting the nerve which leads to the central nervous system, and from there to the vaso-motor nervous system,—hence the discharge. The condition seems to have been checked by severing the ends of the centripetal nerve and so inhibiting the irritation. There was no sign of any accessory sinus affection, and nothing of any significance to be seen but the copious exudation. Dr. Guttman said that this was the only theory by which he could explain the case. He could only find one similar case, reported by

St. Clair Thomson. In this case Lichtwitz operated on the nose and by entering the frontal sinus through the nose was able to cure the condition.

DISCUSSION.

DR. HARMON SMITH said that he wished to corrobrate the symptoms enumerated by Dr. Guttman, as the case had been under his personal supervision at the Manhattan Eye, Ear and Throat Hospital. He had had the fluid examined chemically to determine if it were a true hydrorrhea or a cerebro-spinal fluid, the only way by which the character of the discharge can be accurately determined, and the report had proved it to be a true hydrorrhea. Examination of the mucosa revealed little or nothing to account for the excessive discharge. The patient became discouraged and left the hospital without operative measures being instituted. Dr. Smith said that he had seen Dr. St. Clair Thomson's case referred to, which was in many ways similar to this one. In Thomson's case the woman could hold her head over a cup and fill it with fluid in two or three hours. The skiagraph showed no fracture of the cribriform plate nor any sinus involvement. He said that Dr. Guttman was to be congratulated upon perfecting a cure, as the woman was in such a state that she was unable to carry on her vocation.

DR. FREUDENTHAL said that it seemed to be a clear case of hydrorrhea nasalis, of which he had seen a good many cases in former years. The main symptom is nervousness. The discharge starts when it pleases the patient and stops when it pleases the patient. He had seen cases continue for a year, and then without any indication, cease. In one instance the cerebro-spinal fluid came from the nose. That case contined for five years; it started after Dr. Herman Knapp had removed the middle turbinate bone, and continued for five or six years and then suddenly ceased. Whether these cases are fore-runners of accessory sinus disease, he could not say. He cited a case in which a lady had had a hydrorrhea on one side of the nose for years, and then suddenly developed a frontal sinusitis on the same side. She was operated upon and got perfectly well.

DR. LEDERMAN inquired about the condition of the turbinals in this case and the indications for their removal. The fact that the hydrorrhea was cured so promptly was evidence of its neurotic origin, and Dr. Guttman's theory no doubt accounted for the condition.

DR. GUTTMAN said that he could not give an accurate explanation of the case. It was simply an exemplification of the old Latin quotation, cessanti causa cessat effectus," (when the cause ceases the effect ceases). Dr. Freudenthal's explanation of nervousness was not sufficient, for the nervousness could have ceased long before the turbinectomy, but it stopped an hour after the operation on the affected side. That must have had some connection, for if it were nervousness alone why did it not stop when the healthy side was operated upon? The history of nervousness may have had something to do with the condition, but the operation on the healthy side had no effect whatever; whereas as soon as the affected side was operated upon the discharge ceased. There were not many objective symptoms. There were hardly any pathological conditions. The turbinates were removed because there seemed nothing else to do.

Lymphatic Leucemia. DR. B. MUNDAY.

The case was presented more on account of its rarity than because it was a strictly throat condition. It was a case of acute lymphatic leucemia, and was mainly interesting from the diagnostic standpoint. It had run an acute course, the temperature ranging from 102° to 105° with remissions. The trouble began in the left parotid gland, and three days later the other side was affected. At first it was supposed to be a case of mumps, but not being relieved by the usual treatment and the submaxiliary glands becoming involved, the patient was taken to a pathologist who made a blood examination, showing a leucocytosis of 80,000, the lymphocytes predominating to the extent of 67 per cent.

The case is to be distinguished from spleno-myelogenous leucemia, the more common form, the lymphatic form being a rare condition. The distinguishing feature between the two is that in the lymphatic leucemia the lymphocytes predominate; in the other, the myelocytes, peculiar to the bone marrow, are in excess. It is, of course, to be differentiated from pseudo-leucemia or Hodgkins' disease.

The case was of three weeks' duration. The child had an aphthous stomatitis. The blood count showed hemoglobin, 80 to 85 per cent; erythrocytes, 4,000,000; leucocytes, 80,000. Differential count; large mononuclear lymphocytes, 15 per cent; small mononuclear lymphocytes, 67 per cent; polynuclear neutrophiles, 15 per cent. In the spleno-myelogenous form the myelocytes would be from 60 to 80 per cent.

The spleen in this case is markedly enlarged, and the x-ray shows a distinct tumor of the mediastinum.

DR. LAW said that there was not much need for interpretation of the x-ray plate, for the growth was so large that one could determine the outline very clearly. The lower border of the tumor overlaps the heart and extends to the right side about 4 inches beyond the sternum. It was almost as large as the heart in every diameter. If it were not for the history of the case, one would be liable to say that it was an enlarged thymus, but taking the history into account, he was inclined to think that it was a tumor, probably involving the thymus structure.

DR. GUNTZER asked if the x-ray plate could be seen.

DR. LEDERMAN asked what the blood-count was in a case of ordinary cervical adenitis.

DR. MUNDAY replied that he could not answer that question off hand but that the question of diagnosis lay in the differential blood count; an acute adenitis would give a high percentage of polymorphonuclear leucocytes.

DR. EMERSON said that it would depend on the character of the infection.

DR. THURBER asked if the child had any dyspnea.

DR. MUNDAY replied that there was none yet, but that there was a marked engorgement of the superficial veins of the chest and abdomen.

DR. COCKS asked if Dr. Munday had excluded the possibility of the stomatitis being caused by Vincent's organisms. Dr. Sondern read a paper last spring before the Academy of Medicine, calling attention to the close connection between Vincent's angina and lymphatic leucemia. There might be such an association in this case.

DR. CARTER inquired whether the thymus is not frequently enlarged in lymphatic leucemia.

DR. MUNDAY, replying to Dr. Carter's inquiry about the thymus, said that he had been looking up that question and that it did not seem to be given as one of the diagnostic points.

In regard to Dr. Cocks' question about Vincent's angina and the stomatitis, Dr. Munday said that had occurred only recently and did not exist at the beginning of the trouble. An examination has not yet been made to determine whether or not it is a case of Vincent's angina.

Laryngectomy Combined with Gastrostomy. DR. FRANK TOREK.

The feeding of a patient who has been subjected to an extensive laryngectomy, especially if complicated by a partial resection of the pharynx, is attended by difficulties and dangers. If a permanent tube is introduced through the nose into the esophagus its constant presence not only causes the patient much inconvenience but also interferes with the healing of the wound through the fact that the tube, which cannot be kept aseptic, rests against the suture of the pharynx. This suture becomes infected and gives way, and not rarely necrosis results. The infection spreads downward, and the tracheal stump which had been sutured to the skin, may separate from it here and there. It may then happen that even after the patient has successfully rallied from the operation as such, he will aspirate secretions and succomb to a pneumonia.

If, on the other hand, the stomach-tube is introduced every time the patient is to be fed, the conditions are, if anything, still worse, for the introduction of the tube, done at least occasionally, by the nurses, may easily result in perforation of the suture line. I have experienced such a case in which the tube had been pushed through the suture line of the pharynx, and the accident was not noticed until the fluid food that was poured into the tube ran through the dressings into the patient's lap.

In the case here presented I overcame these difficulties in a very simple way. When the laryngectomy had been completed I performed a gastrostomy according to Witzel's method in order to administer the food through the gastric fistula. The case was a far advanced one, in which not only the whole larynx and epiglottis had to be removed, but also the anterior wall of the pharynx had to be resected to the extent of three or four centimeters and a portion of the base of the tongue likewise had to be excised. Under these circumstances the conditions for suturing the pharynx were, of course, very unfavorable. Nevertheless, although on the sixth day the presence of mucus in the wound gave proof that a portion of the wound had given way, the after-treatment, particularly as regards the change of dressings, was so simple that the difference between this case and former ones was marked.

The healing of the wound progressed without any disturbance. The pharynx fistula closed after 4½ weeks and the patient could again swallow both fluid and solid food. At the same time the gastrostomy tube was removed and the gastric fistula closed promptly, without leaking a drop.

The addition of a gastrostomy to an extirpation of the larynx does not add very materially to the severity of the operation; for the laryngectomy is done, as I have lately always performed it, under local anesthesia. In

such advanced cases the severe dyspnea forbids operating under general anesthesia, unless one has chosen to perform a preliminary tracheotomy. This, however, one will prefer to avoid in the interest of asepsis. For local anesthesia I employ a ½ per cent solution of novocain with suprarenin deep injections being made to anesthetize the trachea and larynx, and superficial ones for the overlying soft parts. The deep injections are four in number on each side. The first, to block the superior laryngeal nerve, is made between the hyoid bone and thyroid cartilage into the thyro-hyoid membrane two centimeters from the median line. The incisure of the larynx serves as a guide to the median line. The other three injections are made at points farther down to reach the posterior part of the larynx and trachea. For these a curved needle is of advantage. One of these is made behind the cricoid cartilage, another below the isthmus, and the lowest one in the region of the jugular notch. At least 5 ccm. of the solution is injected at each site, the injection beginning at the deepest spot and being continued as the needle is drawn forward. Then superficial injecions are made corresponding to the lines of incision. I employed a T-shaped incision. The operation itself is made according to Gluck's well known method, with transverse division of the trachea and suture of the tracheal stump to the skin in the jugular.

When the laryngectomy has been completed, the patient, who now breathes again with perfect ease, can readily take an inhalation narcosis through the tracheal opening for his gastrostomy. Of course it is also possible to perform the gastrostomy under local anesthesia.

This little addition to the technic of laryngectomy, I feel sure, will prove to be of good service in many difficult and extensive cases.

DISCUSSION.

DR. FREUDENTHAL said that he saw the patient early in the spring. At that time there was a mass of tissue which was not absolutely characteristic of malignant growth, and it did not appear very large. He advised removal of a piece for examination and explained what would be the result if it proved to be malignant. A piece was removed under suspension laryngoscopy, and during this procedure he saw how large the mass really was. Large pieces were removed, as the patient had asked that the whole mass be taken out, if possible. The tissue was examined and reported to be non-malignant. However, it grew very rapidly, and within a few weeks the same procedure was repeated. Again the report was that it did not show any malignancy, although it seemed clear to him that the condition was malignant, or it would not have returned so quickly. About that time he left for Europe, and on his return in the fall the patient showed up again suffering from a severe dyspnea, and asked whether he could go to Dr. Torek for an operation. Dr. Freudenthal said that he assented to this, and was present at the operation, and had been impressed by the large amount of novocain used by Dr. Torek,—150 to 180 of a half per cent solution,—and also by the gastrostomy which Dr. Torek performed, which was an entirely new point in such a condition. If it proves as beneficial in other cases as in this one it should be more generally applied.

(*To be continued*).

PHILADELPHIA LARYNGOLOGICAL SOCIETY.

Regular Meeting, September 23, 1913.

DR. ROSS HALL SKILLERN, CHAIRMAN.

Tracheotomy with Lantern Slide Demonstrations. DR. CHEVALIER JACKSON.

Indications for tracheotomy may be classified under three heads: 1. Dyspnea. 2. Therapeutic measure in the absence of dyspnea. 3. As a preliminary to other surgical procedures namely laryngectomy, laryngotomy, and laryngostomic fistula.

Dyspnea demands tracheotomy. We preach early tracheotomy and perform it late. When cyanosis is present we have waited too long. Ashy gray color is associated with dangerous dyspnea. Two cases of papilloma were found dead in bed; operation delayed too long.

Instruments: A knife, the index and the middle fingers are the essentials.

Anesthesia: Always local and absolutely never general.

The accessory muscles aid to a greater degree than we realize; therefore a patient with marked dyspnea dropping off to sleep may choke up because the aid of accessory muscles has been arrested. Chloroform should never be used. We keep on reporting, "patient ceased to breathe under general anesthesia;" a "few whiffs of chloroform and the patient died."

As far as the anatomy is concerned, forget it altogether. The Doctor illustrated (blackboard demonstration) what he termed as a safety and danger zone in the operation. The safety zone in the center and the danger zone to the right and left, the latter containing the vessels and nerves are pushed aside.

Technic: Technic is more often neglected than in any other class of operations; asepsis counts just the same as in any other operation but if the case is an extremely urgent one do not let the patient die on account of certain prescribed rules but be as careful as possible. Local asepsis reduces the mortality in tracheotomy to 2 per cent.

Operations: The three methods usually described are: 1. Through the crico-thyroid membrane. 2. The high. 3. The low tracheotomy. Operations through the crico-thyroid membrane should be eliminated as useless. If one is unfamiliar with laryngeal work any operation is justifiable in extreme cases. The so-called high and low operations, a misfortune in literature. One great big wound from the thyroid cartilage down makes the operation easy. The deep operation is difficult and we have a low-down deep wound. Dissecting with the aid of groove director is beautiful from an anatomical point of view but there is no advantage in this method, and besides we often want to get through as soon as possible. By all means avoid the stab wound.

Two incisions should complete the operation. Caution: Do not cut too deep, especially does this rule apply to children during coughing on account of the party wall between trachea and esophagus, the latter may be wounded. Make one long incision avoiding the cricoid cartilage. The

large portion of the post-operating trouble is due to injuries to cricoid. Rough use of dilators and retractors is apt to strip pericondrium from tracheal rings and cause exuberant granulations damaging inter-annular membrane and followed by stenosis. Do not be carried away with new plans such as flap or window flap operations which are liable to be followed by necrosis of cartilage and stenosis. Do not stop cutting with first hiss of air. With a crack of two or three rings we have made incision free enough for excess of air. It is well to have the air impregnated with compound tincture of benzoin. It is essential to have two canulae to facilitate dressings and avoid delay. Get all tenacious matter out of tube before boiling the latter otherwise it is more difficult to remove and be sure tube is in trachea and long enough to allow for swelling; and every tube ought to have an obturator. An especially trained nurse for this world is indispensable.

Morphin should not be administered—cough is the watch dog. In tuberculous laryngitis tracheotomy may be performed as a therapeutic measure. To induce anesthesia—interdermatic instead of hyperdermatic method is advised. In absence of sand bag, tucking back of forehead will bring operating field into prominence.

Most rapid method of operating: Middle index-finger and thumb of left hand to push soft parts to left and right of operating field and when in a hurry do not bother about isthmus of thyroid gland or veins. When about to incise trachea, fixing middle finger on left side, and thumb on right the index-finger is moved downward feeling washboard-like rings of trachea.

After-care: It is a mistake to sew up the wound because cartilage is extremely slow to unite, not on account of emphysema but because we are apt to get fungations within the trachea. Pack wound lightly with broad pieces of bichlorid gauze until healed from the bottom.

DISCUSSION.

DR. J. SOLIS-COHEN: My method would now appear antiquated. For local anesthesia I have often used refrigeration and am opposed to general anesthesia. Would take away hangers from each side of the tube, inner tube can readily be raised without them. To maintain moisture keep an apron of gauze over the opening. Forcing a too short tube may cause emphysema into connective tissue; curetting into connective tissue over the line of incision will prevent it. Have always made a small incision to avoid scarring, and a short bladed knife with a shoulder is recommended to avoid wounding the posterior wall of the trachea; incise during insipration.

Treatment: Always use two tubes. The tube is held in position with button tapes, one tape is long and other short and they button on the side instead of the back. Cannot see how long tubes avoid striking the anterior or posterior wall when the patient is in the sitting position.

DR. WM. L. RODMAN: It is always inspiring to hear Dr. Jackson talk and I am pleased to have listened to his well-thought-out principles. We are glad to have Dr. Skillern who is skilled in this work as a colleague. I agree that we often think about early operations but really do them late. I wish to emphasize one point, that is, the importance of oral an-

tisepsis in operations on the jaw, throat and tongue. On account of the danger of septic pneumonia, keep such patients up to encourage expectoration. The stab-wound is an unsurgical procedure, the opening is entirely too small. I favor the high operation and a long incision.

DR. ROYAL W. BEMIS: When tracheotomy is performed after intubation in croup cases the low operation is preferred, to get below the membrane and usually a small incision is made.

DR. G. W. MACKENZIE: I would ask Dr. Jackson if he has ever found any benefit following tracheotomy in benign growths of the larynx, for instance papilloma.

DR. G. M. COATES inquired as to Dr. Jackson's method of using local anesthesia. Dr. Coates said he had been accustomed to infiltrate the skin with novocain and use Schleich's solution for deeper infiltrations but doubted whether the latter was really necessary. He was glad to know that Dr. Jackson never used general anesthesia as it always seemed to him that a terrible chance was taken when ether was given to a case where respiration was already so much embarrassed as in the majority of cases needing tracheotomy. The long tubes shown by Dr. Jackson are most useful and vastly superior to the old short tubes which were often forced out of the wound by post-operative swelling or emphysema. He was particularly glad to hear Dr. Jackson lay much stress on the after-treatment, as that part of the subject is usually neglected in text-books.

DR. ROSS HALL SKILLERN: Tracheotomy at present may be viewed from two standpoints; that of the surgeon and that of the laryngologist. The former frequently does not find an indication for the operation until it is too late while the laryngologist is often in doubt as to the advisability of tracheotomy, intubation or bronchoscopy. It may be that the new suspension-laryngoscopy of Killian will go far towards solving the problem, a problem moreover which requires instant decision as far as the operation itself is concerned. Dr. Jackson's point regarding the lengthy incision is the crux of the entire procedure as the trachea can then be opened under absolute control of the eyes without any semblance of "stabbing by feel." One of the most difficult points to deal with in the after-treatment is the expulsion of the canula with consequent danger of suffocation. This is due to the faulty construction of the ordinary canula as usually found in the shops. They are entirely too short and can easily be drawn out of the trachea by the post-operative swelling and paroxysms of coughing. Dr. Jackson's long tubes are constructed to obviate this difficulty. Another complication which not infrequently ensues in the after-treatment is difficult canulization. This is due to the spin of granulation-tissue which forms on the posterior tracheal wall just above the curve of the canula and on removing the tube presses on the anterior wall; thus occluding the tracheal lumen. Chiari has invented a chimney canula to overcome this difficulty but the long tubes of Jackson are far better adapted for this purpose besides having the advantage of being easier to remove and cleanse.

DR. JACKSON (closing): In regard to Dr. Coates inquiry I find the interdermic method of local anesthesia quite satisfactory. Salt solution alone is not sufficient but 1-100 gr. of cocain to the ounce of salt solution

is quite sufficient. An infinitesimal amount of cocain will blunt the nerve endings. Amount of cocain in Schleich's solution entirely unnecessary. Have not practiced the deep infiltration method but if doing so would go through the line of skin incision; there is no objection to it and I believe it a good suggestion.

Replying to Dr. Mackenzie I would say that in my practice tracheotomy has been of no advantage in cases of papillomata but cannot say that I am convinced it is of no benefit. Tracheotomy is of benefit in all conditions associated with pus in the larynx on account of drainage through tracheotomy tube. Children expectorate very well through the tube but not through the mouth.

Regular Meeting, October 21, 1913.

Operations for the Correction of Deformities of the Nose. Practical Demonstration of Bridge-Splint and Bone Transplantation Operations on the Cadaver. DR. WILLIAM WESLEY CARTER.

I am glad that your President has specified in his invitation to me to address you that I shall present this subject in a practical way, for I am quite certain that no more satisfactory way could have been chosen to convey information upon this essentially practical subject than by demonstration on the cadaver and by the recital of one's clinical experience.

For practical purposes nasal deformities may be divided into: (1) Those without loss of tissue. (2) Those in which there has been more or less destruction of the bony and cartilaginous framework of the organ. Cases belonging to the first classes are congenital, acquired or due to traumatism, and as a rule are amenable to the bridge-splint operation. This procedure has for its object the replacement of the tissues of the nose into their normal position, and corrects the intra-nasal as well as the external deformity.

Description of instruments: The bridge-splint consists of a lightly constructed steel bridge, the two wings of which are hinged together in the middle, the distance to which these wings can be separated is regulated by a thumb-screw. The edges of the wings are padded with rubber. The second part of the instrument consists of two small intra-nasal splints perforated by several small holes.

Description of operation: Unless the case is one of recent fracture we must first mobilize the bony framework of the nose by means of these special instruments: the chisel-forceps, the intra-nasal chisel, and the Adam's forceps. First I introduce the intra-nasal chisel, placing the center of the blade against the anterior edge of the nasal process of the superior maxilla. A few taps with the mallet and the chisel is sufficiently engaged to split off this process by a slight inward turn of the chisel. This process is repeated on the opposite side. The upper ends of the nasal bones are then liberated by means of the chisel forceps, the outer blade being padded with rubber tubing. The Adam's forceps is now used to complete the mobilization of the bony framework. If the septum is too short, due to a badly depressed deformity, it is incised diagonally from

the floor of one nasal cavity to the roof of the other; when the nasal bridge is raised, these two segments slide by each other and the septum is lengthened without leaving a perforation.

Application of the instrument: A silk suture is passed through one of the holes in each of the intra-nasal splints and knotted. Each suture is then threaded into a large curved needle and passed from within the nose through the cartilaginous dorsum near the ends of the nasal bone.

The bridge is then applied, and the sutures brought up through perforations in the latter. By means of the sutures a sufficient amount of traction is applied to pull the nose up into its proper position. The sutures are then tied together over the hinge of the bridge, and the proper amount of pressure is applied to the base of the nasal triangle by regulating the thumb-screw. The instrument is self-retaining and should be left on for ten to fourteen days. Each day the bridge should be loosened up and the skin the wings rest on bathed with alcohol to prevent necrosis. This method has proved most satisfactory in the treatment of recent fractures and old depressed deformities where a sufficient amount of bony framework remains to support the nose in its correct position after removal of the bridge.

Bone transplantation: We will now consider the second class of deformities, those in which there is a deficiency of bony framework. In these, bone from some other part of the body must be substituted for that which has been lost.

Several hours before the operation the skin over the nose and over the right side of the chest is scrubbed with green soap and water, and a wet bichlorid dressing (1-5000) applied. Immediately before the operation these areas are painted with tr. iodin and the eyebrows are covered with collodion. After operation begins no solution is used except sterilized normal salt solution.

A curvilinear incision, convexity downward, is made between the eyebrows. This extends down to the periosteum but not through it. Lifting up the flap a short incision is made through the periosteum on a line connecting the two cornua of the first incision. The periosteum is elevated for ⅜ of an inch above this. With a special, sharp elevator the skin and subcutaneous tissue is elevated over the dorsum and sides of the nose, and if necessary over the cheeks.

A section of the ninth rib two inches long is then removed, the periosteum on the outer surface being preserved. This is split in its transverse diameter, the cancellous tissue scraped from the outer half, and the compact fragment of bone shaped to suit the deformity. The transplant is introduced nearly to the tip of the nose and the upper end anchored under the periosteum over the naso-frontal process. The blood-clot is not removed, as this favors osteo-genesis. The wound is closed with fine silk or horse-hair. Sutures are removed in five days. Healing is complete in ten days.

Summary of conclusions drawn from clinical and x-ray observation of twenty cases, oldest nearly 4 years old: (1) Bone *uncovered by periosteum*, anchored under periosteum over the frontal bone becomes united to the frontal bone; graft is larger at this point and where it lies in contact

with denuded nasal bones. New bone is extending along the grafts from these points. (2) Bone either *covered or uncovered by periosteum*, but accidentally *separated from the living periosteum and bone*. New bone is being deposited around the original graft, which is apparently undergoing absorption. In one case of 2½ years standing considerable growth of bone has occurred. (3) Cases where wound was *infected*, transplant has been *completely absorbed*. (4) Cases where periosteum-covered bone was successfully implanted: Firm union to frontal bone and transplant has grown vigorously. There is a line of rarefaction running down the center of the graft, apparently indicating that the original bone is being absorbed.

Conclusions: (1) Bone transplantation is the most satisfactory method for correcting nasal deformities attended by the loss of the bony framework of the nose. (2) Bare transplants, not connected with the living periosteum and bone, act in an osteo-inductive capacity. (3) When connected with living, periosteum-covered bone they are in addition osteo-conductive and possibly osteo-genetic. (4) Periosteum-covered transplants connected with the living periosteum-covered bone are osteo-genetic. (5) The original bone is probably absorbed, but is replaced by the new bone growing around it. (This conclusion is reached because in each case there appears a line of rarefaction extending down the center of the graft.) (6) The periosteum has a decided osteo-genetic function.

DISCUSSION.

DR. ERNST LA PLACE expressed his appreciation of Dr. Carter's technic and skill. Such work makes progress in operations for deformities in the nose. The first operation described is an improvement on one he devised sixteen years ago; a straight incision in median portion of nose, chiseling and separating. About forty cases were operated on. Dr. Carter's operation should give better results, less traumatism and less risk of infection. For Dr. Carter's osteo-plastic operation he has nothing but admiration. Here the parts being plentifully supplied with blood, the advantages of bone transplantation are manifest and have been fully and beautifully demonstrated, and the evident perfect cosmetic results as shown in the casts, mark a distinct epoch.

Has Dr. Carter noted in any of his cases that growth of bone got beyond control? For in such an instance, distortion rather than embellishment would follow. A little periosteum is always of advantage and will help in reproduction of bone.

DR. EUGENE VANSANT: Deformities should be divided into two classes, —recent and old. In recent cases it is not much trouble to mould the parts and they rapidly heal. In old cases it is different, old tissues change and shorten and after correction the pull and drag often cause reappearance of the deformity. Dr. Carter, in loosening all tissues, takes a great step in advance. In Berlin some years ago he purchased a splint somewhat like Dr. Carter's; shortly after his return he had occasion to use same on a recent case, complete restoration followed.

DR. GEORGE M. COATES: Dr. Coates said he had had no experience with Dr. Carter's method but had been interested in the results obtained by

Dr. Babbitt in a couple of cases recently seen by him. In these the ascending process of the superior maxillary were chiseled through the skin. It should be a distinct advantage to operate through the nose as Dr. Carter does. He asked Dr. Carter at what point on the inside nasal wall the chisel was inserted.

DR. HERBERT GODDARD: I should like to ask Dr. Carter the age of the oldest and youngest patients on whom he performed the bone-transplantation operation, and should also like to have him express his opinion as to the age-limit in the sub-mucous operation.

DR. FIELDING O. LEWIS: Does the splint cause any pressure on the eyes? I believe failure is often the result of improper splinting.

DR. CARTER (closing): It is remarkable what can be done to the nose. It stands great amount of traumatism, and is more or less immune to infections habitually found in the nose. Dr. La Place asks if I have found any over-growth of bone. I have not, one transplantation is growing at a remarkable rate but I believe there will be no over-growth. While there are many advocates for and against the use of periosteum there is no question in my mind but that periosteum does help; therefore I believe in keeping in the middle of the road.

Referring to what Dr. Vansant has said, contraction of tissues is one of the greatest problems to contend with. In syphilitic tuberculous cases liberal elevation of soft parts is essential and if mattress sutures are placed on the face, adhesions take place, but always nearer the nose. Have never used cartilage, it is non-vascular, is always absorbed, and therefore not good to transplant. Adhesive plaster as splint in recent cases is absurd and an absolutely unsurgical procedure; it pushes the nose down and holds it there. In a recent case the splint not only corrected the deformity, but also corrected an old septal deformity.

Replying to Dr. Goddard's question, the youngest patient was 4 years and the oldest 47 years old. Bone-transplantation is not recommended in very young patients, better the bridge splint or some modification of it. Bone-transplantation in the aged is inadvisable because osteo-genetic property is lost. The splint should be placed below inner canthus, otherwise it may prevent tears from flowing down the duct.

In very young subjects an operation like Dr. Gleason's is preferred to a sub-mucous resection. Very little prominence at the upper end of the bone-graft remains after a short time.

Regular Meeting, November 18, 1913.

Presentation of Cases.

DR. G. W. MACKENZIE demonstrated the esophagus, trachea and lungs of a child, 10 months old, who had swallowed a safety-pin, which resulted in death. On being called to see the patient a Jackson esophagoscope was passed, and an attempt was made to remove the pin, which was seen just below the cricoid cartilage, substantiating the x-ray previously taken. It was not possible to extract the body although several different instru-

ments were used. An attempt was finally made to force the pin into the stomach, which succeeded. The child grew rapidly worse and died the following morning. An autopsy was made which brought out the fact that the esophagus had been ruptured presumably by the pin or the tube, and the pleural cavity contained over a pint of bloody serum containing streptococci.

DR. R. H. SKILLERN said that esophagoscopy was difficult in children, the ratio being inversely proportionate to the age. Sometimes even in adults it is impossible to remove a foreign body from the esophagus by means of endoscopy. One means should be mentioned which has been more or less neglected, that is the fleuroscope. Some years ago a little boy was brought to Dr. Skillern with a cent in the esophagus. Dr. Pfahler constructed a table in which the x-ray tube was below the patient and the fleuroscope screen held above. Through the screen it was possible to see the penny perfectly as well as the forceps inserted in the esophagus, even the opening and closing of the jaws. It was a simple matter to grasp the coin and remove it in this manner.

Dr. Ross Hall Skillern exhibited a carious tooth drawn from a patient with chronic maxillary empyema. It was possible to trace the course of the infection from the carious portion of the tooth directly through the lingual root into the floor of the antrum. A fine snare wire introduced into the cavity found its way into the sinus. The tooth was extracted, a large opening made into the sinus through the alveolus and a prothesis performed. After several weeks the patient was discharged, cured.

Report of a Case of a Large Choanal Polyp. DR. R. F. RIDPATH.

Choanal polyps have been recognized for a long time, their genesis and point of origin, however, remaining a matter of discussion. Johnson, in 1893, (Transactions of American Laryngological Association), reported one case, and Ingersol, in 1900, (THE LARYNGOSCOPE) three cases; but neither appeared to recognize their true origin. Killian, 1905, claimed all these growths came from the mucosa of maxillary sinus, making by pressure false opening, or ostium, into the nasal cavity. Kubo, of Japan, a former pupil of Killian several years later, in 1909, substantiated Killian's observations in four cases. Lang, of Budapest, found only one of six cases directly connected to the maxillary sinus; one attached to floor of nose, the other originating from the ethmoid cells. These polyps have long pedicles, pear-shaped, slightly compressible, have arterioles covering and forming red lines over their surface, and requiring considerable force to dislodge. Diagnosis not at all difficult. They interfere with respiration in a mechanical way.

Case 1: Mr. H. S., aged 48, referred to by Dr. B., October 27; is well nourished, has enjoyed excellent health, and no complaint except inability to breath through nose. For the past twenty years polypoid growths in nose; has been operated on numerous times with but temporary relief; last operation more than a year ago, surgeon informing him he had removed ethmoid capsule. Since that time he has felt growth in mouth, latter having gradually increased in size up to the present time.

Examination: anterior rhinoscopy, nose completely occluded by polyps; mouth, teeth fairly good, tongue coated, hard palate, tonsils normal. Pos-

terior rhinoscopy: large polyp completely filling front nasal space and extending half-inch below uvula. October 27: Exenteration of left ethmoid capsule containing many polyps, followed by but slight relief, on account of growth in choana. November 4: Exenteration of right ethmoid capsule. Choanal polyp was found to have originated by long and slender pedicle from maxillary sinus, pedicle cut, polyp removed and point of origin cauterized.

Syphilitic Lesion of the Tonsil and Soft Palate. DR. FIELDING O. LEWIS.

F. E., aged 16, errand boy by occupation. Patient had been in good health until about fifteen months ago. At that time he was said by his family physician to have had diphtheria. He was treated for this condition for eighteen days and was given four injections of antitoxin. He was pronounced cured, but later called in another physician, who stated that he still had a diphtheritic infection and he was under observation for twenty-eight days, and during that time received two additional doses of antitoxin. He was not given any further treatment, and was given no internal treatment but some peroxid of hydrogen as a gargle.

He has never complained of pain; anemic; and has lost a few pounds in weight.

He applied at the Jefferson Hospital for treatment on October 18, for what he thought was a growth in his throat. On examination we found the left tonsil, pillars, and part of the soft palate covered with a necrotic membrane below which was an ulcerated area. His uvula was very much enlarged and ulcerated; Wassermann reaction, negative. He was placed, however, on inunctions of mercurial ointment, and given small doses of potassium iodid. Acid nitrate of mercury was applied locally to the ulcerated areas. The condition has almost entirely disappeared, and the patient has gained nine pounds in two weeks.

Fibroma of Larynx. DR. FIELDING O. LEWIS.

S. L., aged 40, shoemaker by occupation; applied to the Jefferson Hospital about one year ago. Complained of frequent attacks of dyspnea. The man was well nourished; heart and lungs normal; no specific history. Examination of his larynx revealed a large growth, involving the right side of the larynx and vocal cord, a portion of which was removed; pathological report was fibroma of the larynx.

We attacked the remainder of this growth on several occasions by the direct method but were unsuccessful, and resorted to numerous sittings by the indirect method, which has resulted in almost complete eradication of the growth.

DISCUSSION.

DR. G. M. COATES: This patient presented himself for treatment at the Pennsylvania Hospital last summer. It was difficult on account of his short, thick neck to obtain a good view by the direct method. A portion of the growth was removed by indirect method and the patient was lost sight of.

DR. G. M. MACKENZIE advocated laryngo-fissure as the only rational and practical method. After the age of 40 the thyroid cartilage is frequently ossified, necessitating the use of bone-cutting forceps.

Dr. R. H. Skillern strongly advocated the use of the Killian suspension laryngoscope in all intra-laryngeal operations.

Chronic Frontal Sinusitis with External Rupture. Dr. Fielding Lewis.

I. O., colored, aged 52. Six years ago noticed a little elevation at the inner canthus of his left eye which would come and disappear at intervals. Later the elevation became permanent. It gave him no trouble until about December, 1912. He then began to notice loss of vision in his left eye; there was no pain. He consulted the Eye O. P. D. of the Jefferson Hospital in January, 1913. A small growth was then removed from the region of the floor of the left frontal sinus, with the report that it had some communication with the sinus. The pathlogical report was given as a mixed-cell sarcoma. He was then treated with x-ray for some weeks, and then referred to the Nose and Throat O. P. D. and we found involvement of the left ethmoidal as well as of the frontal sinus; apparently no involvement of the left antrum.

In July, 1913, his eye, together with the eyelids, was completely removed. Diseased bone of the frontal sinus and ethmoids were also removed at the same time. The skin incision healed by first intention; the orbit and sinuses are healing by healthy granulation. There is no sign at the present time of any recurrence.

Early Laryngology in Philadelphia. Dr. J. Solis-Cohen.

At the close of the Civil War Dr. Cohen resumed practice devoting his attention to laryngology. Dr. Morrell Mackenzie's "Manual" was the first text-book purchased. Dr. Cohen early became associated with the Northern Dispensary, when an opportunity was afforded to do eye work as well. First view of hidden parts of the larynx was obtained with the aid of a dental mirror. The dentist permitted the use of the instrument under gas between extraction of teeth and recovery of patient. Thus opportunity was afforded to acquire technics, to observe and study.

Demonstrations were given, as practice increased more books and instruments were purchased. First papers were written for *New York Medical Journal*. Many amusing experiences were related as Dr. Cohen recalled his early teaching days when he conducted a private clinic on Ninth street, opposite the University of Pennsylvania. Students were few and far between, and at times patients were as scarce as students.

During his most interesting and instructive address, Dr. Cohen frequently mentioned names of teachers and specialists with whom, from time to time, he has been more or less intimately associated, during his long and distinguished career as a laryngologist.

DISCUSSION.

Dr. E. B. Gleason: Prior to introduction of cocain all methods in vogue for induction of local anesthesia were more or less primitive and altogether unsatisfactory. Surely a rare degree of technic was then essential, and pleasant it is to recall the fact that Dr. Cohen at that time was successfully performing intra-laryngeal surgery. Dr. Gleason was first assistant and later an associate of Dr. Carl Seiber, and therefore gained much of his earlier experience from one of Dr. Cohen's best-known pupils.

At the conclusion of the meeting Dr. Cohen was unanimously elected first honorary member of the Society.